

5  
333.9102  
F2yri  
1981-82

# The Yellowstone River *Instream* Reservation

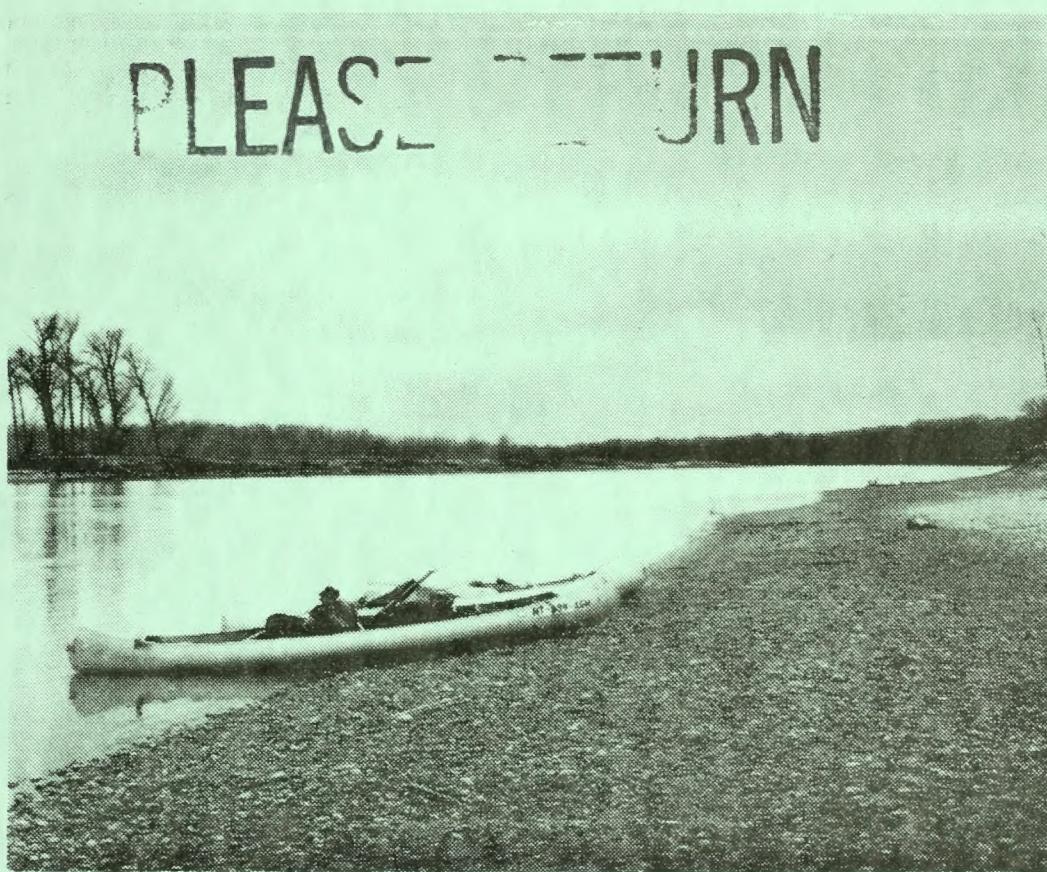
STATE DOCUMENTS COLLECTION

AUG 6 - 1985

DEC. 16, 1981 - DEC. 15, 1982

MONTANA STATE LIBRARY  
1515 E. 6th AVE.  
HELENA, MONTANA 59620

PLEASE RETURN



## FOURTH ANNUAL REPORT

MONTANA STATE LIBRARY  
1515 E. 6th AVE.  
HELENA, MONTANA 59620

Compiled By  
Larry Peterman and Fred Nelson  
Ecological Services Division  
Department of Fish, Wildlife and Parks

MONTANA STATE LIBRARY

3 0864 0014 3354 2

MAY 24 1999

JUL 12 1999

THE YELLOWSTONE RIVER  
INSTREAM  
RESERVATION

FOURTH ANNUAL REPORT  
for the period  
Dec. 16, 1981 - Dec. 15, 1982

Compiled by:

Larry Peterman  
and  
Fred Nelson

Ecological Services Division  
Montana Department of Fish, Wildlife and Parks  
1420 East Sixth Avenue  
Helena, Montana 59620

December, 1982



## TABLE OF CONTENTS

INTRODUCTION.....	1
COMPLETED INSTREAM FLOW QUANTIFICATIONS.....	2
COMPLETED FIELD MEASUREMENTS.....	2
PLAN AND SCHEDULE FOR DATA COLLECTION.....	5
APPENDIX A.....	7
Brackett Creek Near Clyde Park.....	7-18
Rock Creek Near Red Lodge.....	19-30
Bluewater Creek Near Bridger.....	31-42
Sweet Grass Creek Above Melville.....	43-54
APPENDIX B.....	55



## INTRODUCTION

The Order of the Board of Natural Resources and Conservation establishing water reservations for the Yellowstone basin was signed on December 15, 1978. As a result of that Order, the Department of Fish, Wildlife and Parks was granted an instream reservation for the Yellowstone at Sidney of approximately 5.5 million acre-feet of water with varying amounts granted in upstream areas and tributaries.

The Department applied for instream reservations on many streams and tributaries where little, if any, flow data were available. In granting an instream reservation for those waters, the Board frequently granted a percentile flow rather than a specific amount of water in acre-feet or cfs. In such areas the Department was directed by the Board through condition 116 to develop and submit to the Board within 5 years of December 15, 1978, a plan to convert the minimum instream flow reservation quantities into cubic feet of water per second and acre-feet of water per month.

Condition 117 states that the reservant shall submit to the Board an annual progress report setting forth accomplishment toward completion of such work as outlined in condition 116, a schedule of anticipated progress and other information as may be required. This report is designed to fulfill the requirements of the fourth-year annual progress report.

The first annual progress report outlined a tentative plan for accomplishing the objectives in condition 116. The tentative plan was then reviewed, commented on and revised. The finalized plan was submitted in the second annual report and was approved by the Board on June 5, 1981. The third annual report contained a verification of the Riggs' Method (Riggs 1968), on the upper Yellowstone as outlined in the second annual report. Application of the Riggs' Method requires that monthly flow measurements for one year be taken on the streams to be analyzed. For those streams, a plan and tentative schedule for collection of the necessary data were presented in the third annual report.

This report presents the data for four streams where the quantification analysis has been completed. It also lists those streams where the field measurements have been completed, but the Riggs' Method analysis has not yet been done. Lastly, a revised work schedule for completion of this task is presented.

### Completed Instream Flow Quantifications

A search of existing streamflow data was done to determine which streams had sufficient, continuous, long-term streamflow records to enable quantification of certain instream reservations. Existing, long-term flow records at USGS gage sites are sufficient for four stream reaches having an instream reservation and the granted percentile flows have been quantified. These are:

1. Bluewater Creek (mouth-headwaters)  
Gage # 6-2078 at stream mile 12.1
2. Brackett Creek (mouth-Sheep Creek)  
Gage # 6-1940 at stream mile 4.7
3. Rock Creek (mouth-Custer National Forest)  
Gage # 6-2095 at stream mile 46.0
4. Sweet Grass Creek (mouth-Forest Service boundary)  
Gage # 6-2005 at stream mile 58.6

The percentile flows were derived by the USGS using their computer program entitled K956 Daily Values Duration Hydrograph Tables and Plots. The computer printouts are attached in Appendix A. The granted percentile flows for the four reaches in terms of cubic feet of water per second and acre-feet of water per month are presented in Table 1.

In addition, two USGS gage sites on the Clarks Fork River (Gage # 6-2088 at river mile 16.3 and Gage # 6-2075 at river mile 71.1) have sufficient, continuous, long-term record for the calculation of percentile flows using USGS computer program K956. The USGS is currently performing the computations which will be included in a later report.

### Completed Field Measurements

Instantaneous flow measurements that have been collected or are presently being collected in conjunction with other studies by the USGS and the MDFWP are sufficient for use in the Riggs' Method for defining the granted percentile flows for many of the stream reaches having an instream reservation. Short-term USGS gage records for many sites are also suitable for use in the Riggs' Method. At other sites, additional flow measurements may be needed to supplement existing records or fill in voids in the data. These sites and a brief summary of the existing flow records are listed in Table 2. For those sites marked with an asterisk, existing flow records are judged sufficient for deriving the monthly percentile flows, provided these measurements can be correlated with the flows at established gage sites having long-term records. The available instantaneous flow records for the various sites are listed in Appendix Table B.

Table 1. Quantification of granted percentile flows in cubic feet of water per second and acre-feet per month.

	Bluewater Creek 85th Percentile		Brackett Creek 50th Percentile	
	cfs	AF	cfs	AF
Jan.	26.7	1,641	7.1	436
Feb.	27.0	1,499	6.3	350
Mar.	27.4	1,684	9.2	566
Apr.	28.1	1,672	41.7	2,481
May	27.1	1,666	100.0	6,147
Jun.	26.1	1,553	78.8	4,688
Jul.	24.2	1,488	26.8	1,647
Aug.	24.8	1,525	10.9	670
Sep.	26.1	1,553	10.7	637
Oct.	26.7	1,641	9.9	609
Nov.	26.1	1,553	9.0	535
Dec.	26.7	1,641	6.6	406
	19,116 AF/year		19,172 AF/year	
	Rock Creek 85th Percentile		Sweet Grass Creek 90th Percentile	
	cfs	AF	cfs	AF
Jan.	30.8	1,893	8.7	535
Feb.	28.3	1,571	7.8	433
Mar.	26.8	1,647	7.7	473
Apr.	32.0	1,904	10.0	595
May	116.0	7,131	82.2	5,053
Jun.	426.5	25,372	260.0	15,467
Jul.	344.5	21,177	115.0	7,069
Aug.	213.0	13,094	50.3	3,092
Sep.	117.5	6,990	29.9	1,779
Oct.	68.7	4,223	26.0	1,598
Nov.	48.1	2,861	17.7	1,053
Dec.	37.5	2,305	10.9	670
	90,168 AF/year		37,817 AF/year	

Table 2. Summary of available short-term USGS gage records and instantaneous flow measurements for streams having an instream flow reservation.

Stillwater Tributaries

- \*1. Castle Creek (mouth - 1,500 ft. above Picket Pin Creek)  
12 monthly measurements by the USGS, 1972-73
- \*2. East Rosebud Creek (Custer National Forest boundary - West Rosebud Creek)  
USGS gage at Roscoe, 1922-24
- \*3. Fishtail Creek (mouth - confluence of East and West Fishtail creeks)  
8 measurements by the USGS, 1981-82  
12 monthly measurements being collected by the USGS, 1982-83
- \*4. Picket Pin Creek (mouth - Swamp Creek)  
18 measurements by the MDFWP, 1975-76
- \*5. West Fork of Stillwater (mouth - Castle Creek)  
12 monthly measurements by the USGS, 1970-71  
11 monthly measurements by the USGS, 1971-72  
12 monthly measurements by the USGS, 1972-73  
8 measurements by the USGS, 1981-82  
12 monthly measurements being collected by USGS, 1982-83
- 6. West Fork of Stillwater (Castle Creek - Sweetgrass/Stillwater Co. line)  
14 measurements by the MDFWP, 1975-76  
No high flow measurements
- \*7. West Fork of Stillwater (Sweetgrass/Stillwater Co. line - Tumble Creek)  
7 measurements by the USGS, 1981-82  
6 measurements being collected by the USGS, 1982-83  
14 measurements by the MDFWP, 1975-76  
No high flow measurements
- \*8. Butcher Creek (W. Butcher Creek - mouth)  
USGS gage #6-2043, 1960-62  
Also three sites with 7-14 measurements by the USGS, 1960-61

Yellowstone Tributaries

- \*9. Bear Creek (mouth - North Fork of Bear Creek)  
USGS gage #6-1895, 1946-49
- \*10. Big Creek (mouth - Millfork Creek)  
USGS gage # 6-1918, 1973 - present; will be operated for 10 years
- \*11. Mill Creek (mouth - East Fork)  
USGS gage #6-1920, 1951-56

In addition, sufficient, long-term gage records are available for computing the granted percentile flows during the non-winter months at sites on Red Lodge Creek (#6-2110) and Willow Creek (#6-2115) in the Clarks Fork drainage. These gages were established by the USGS in 1937 and have operated to the present. However, no winter records are available for most years. The present computer program of the USGS is incapable of analyzing those years having partial flow records. The percentile flows at these two sites could be derived for the non-winter months if the appropriate computer program was available. The Helena office of the USGS plans to have the capability of analyzing these parital records in the near future after their new computer is installed.

#### Plan and Schedule for Data Collection

The quantification of the granted percentile flows for those streams having insufficient flow records will be completed by the Helena office of USGS through an extension of a cost-share, cooperative agreement with the MDFWP. The agreement specifies that the necessary field measurements will be completed by the USGS in two years and all data analyses and quantifications completed by the end of the third year. The MDFWP was originally scheduled to conduct this work, completing all quantifications within a four-year period.

During the first year of the agreement, the monthly flow measurements that are needed for use in the Riggs' Method will be collected at 19 ungaged sites on streams within the Upper Yellowstone River drainage upstream from Livingston, Montana. These stream sites are as follows:

1. Bear Creek above North Fork near Jardine
2. Cinnabar Creek above Cottonwood Creek near Gardiner
3. Cinnabar Creek above Mol Heron Creek near Gardiner
4. Mol Heron Creek above Cinnabar Creek near Gardiner
5. Cedar Creek at Mouth near Gardiner
6. Tom Miner Creek above Canyon Creek near Gardiner
7. Tom Miner Creek at Mouth near Gardiner
8. Rock Creek at Mouth near Gardiner
9. Sixmile Creek above diversions near Emigrant
10. Fridley Creek above Miller Creek near Emigrant
11. Fridley Creek at Mouth near Emigrant

12. Coke Creek near Livingston
13. Eightmile Creek above Mouth (Sec. 33) near Pray
14. Mill Creek above diversions near Pray
15. Trail Creek above Pine Creek near Livingston
16. Suce Creek at Mouth near Livingston
17. Billman Creek above Coke Creek near Livingston
18. Billman Creek at Mouth at Livingston
19. Fleshman Creek at Mouth at Livingston

Sites on Cedar Creek above its Second Fork and Eight Mile Creek above Big Draw were originally slated for quantification during the first year, but were dropped by the USGS due to poor access to the sites.

The Riggs' Method, as described in the Third Annual Yellowstone Instream Reservation Report, is to be applied at these sites, using the flows at the USGS gage station on Big Creek (#6-1918) for correlation. This is the only gage that is presently operating on the upper Yellowstone tributaries above Livingston and the only tributary gage having recent flow records. This gage was established in September 1973, discontinued in September 1979 and reactivated, using MDFWP funds, in October 1982. The gage will continue to operate until 10 years of record are obtained.

The flow measurements on the unquantified streams were originally scheduled to begin in March 1982, but were delayed until November 1982 to correspond to the reactivation of the Big Creek gage. Monthly flow measurements at the 19 sites will continue through October 1983, and the quantification of the percentile flows for these sites completed by April 1984. Flow measurements for the remaining unquantified tributaries to the Shields, Yellowstone, Clarks Fork and Stillwater rivers are scheduled to begin in November 1983, end in October 1984, and the quantification of the granted percentile flows completed by October 1985. The remainder of the flow quantification will be dependent upon available funding.

UNIVERSITY OF TORONTO LIBRARIES

卷之三

POTTER, WILLIS E. THE DIALECTAL AUTOGRAPH FROM 19-YEAR PERIOD BEGINNING OCTOBER 193

## Brackett Creek Near Clyde Park

UNITED STATES DEPARTMENT OF COMMERCE  
GEODRITICAL SURVEY - WATER RESOURCES DIVISION

STATION: 05/1940/000 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	HIGH	*10	*20	*30	*40	*50	*60	*70	*80	*90	LOW
2-01	11.00	9.00	8.00	7.00	6.00	5.50	5.00	4.00	3.50	3.00	2.00
2-02	11.00	10.00	9.00	8.00	7.00	6.50	6.00	5.00	4.50	4.00	2.00
2-03	12.00	11.00	10.00	9.00	8.00	7.50	7.00	6.00	5.50	5.00	2.00
2-04	11.00	11.00	10.00	9.00	8.00	7.50	7.00	6.00	5.50	5.00	1.50
2-05	12.00	12.00	11.00	10.00	9.00	8.50	8.00	7.00	6.50	6.00	2.00
2-06	13.00	13.00	12.00	11.00	10.00	9.50	9.00	8.00	7.50	7.00	2.00
2-07	12.00	11.00	10.00	9.00	8.00	7.50	7.00	6.00	5.50	5.00	2.00
2-08	11.00	11.00	10.00	9.00	8.00	7.50	7.00	6.00	5.50	5.00	2.00
2-09	24.00	15.00	10.00	10.00	8.00	6.00	5.00	4.00	2.50	0.90	
2-10	60.00	10.00	10.00	8.00	6.00	6.10	5.00	2.50	2.00	1.00	
2-11	40.60	15.00	9.00	8.50	6.70	5.00	3.00	2.00	2.00	2.00	
2-12	27.00	7.00	9.00	8.50	7.00	4.20	3.00	2.50	2.00	2.00	
2-13	36.00	10.00	9.00	8.00	7.00	4.00	3.50	2.00	2.00	2.00	
2-14	33.00	9.00	9.00	8.00	7.00	4.00	3.00	2.00	2.00	2.00	
2-15	30.00	7.00	7.00	7.00	6.50	5.00	3.00	2.00	2.00	2.00	
2-16	14.00	14.00	12.00	11.00	10.00	9.50	8.00	5.00	3.00	2.00	
2-17	14.00	15.00	15.00	14.00	13.00	12.00	11.00	9.00	7.00	5.00	
2-18	15.00	15.00	14.00	13.00	12.00	11.00	10.00	8.00	6.00	4.00	
2-19	13.00	13.00	12.00	11.00	10.00	9.00	8.00	6.00	4.00	2.00	
2-20	10.00	10.00	10.00	10.00	10.00	6.00	5.00	3.00	2.00	2.00	
2-21	15.60	11.00	8.00	7.50	6.20	4.70	3.90	2.00	2.00	2.00	
2-22	15.60	12.00	10.00	8.00	6.60	5.00	3.50	3.00	3.00	3.00	
2-23	13.00	13.00	10.00	8.00	6.00	5.00	3.50	2.50	2.50	2.50	
2-24	16.00	12.00	12.00	9.00	6.80	5.00	3.50	2.00	2.00	2.00	
2-25	16.00	13.00	12.00	12.00	10.00	6.50	4.00	3.50	3.50	3.50	
2-26	15.60	11.00	11.00	9.00	6.60	4.70	3.90	2.00	2.00	2.00	
2-27	15.60	16.00	10.00	9.00	6.10	5.00	4.00	2.00	2.00	2.00	
2-28	16.00	16.00	14.00	12.00	10.00	8.00	6.00	4.00	3.00	3.00	
2-29	11.60	11.00	10.00	8.00	6.00	5.00	4.00	2.00	2.00	2.00	

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/1940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

DATE	HEIGHT	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0
1-01	21.00	14.00	10.00	8.00	6.40	5.80	5.10	3.00	3.00	3.00	3.00
3-02	13.00	11.00	9.10	8.00	6.40	5.30	5.00	2.50	2.50	2.50	2.50
3-03	12.00	12.00	11.00	9.00	6.00	5.10	5.00	3.00	3.00	3.00	2.00
3-04	12.00	11.00	9.50	8.00	6.00	5.70	3.90	3.50	3.50	2.00	2.00
3-05	23.00	11.00	10.00	8.00	6.00	5.20	4.00	3.00	3.00	2.50	2.50
3-06	14.00	14.00	11.00	8.00	6.40	5.50	4.50	3.00	3.00	1.50	1.50
3-07	14.00	10.00	4.00	7.00	6.00	5.00	4.00	3.00	3.00	2.00	2.00
3-08	12.00	9.40	9.00	8.00	6.40	5.50	4.00	4.00	4.00	2.00	2.00
3-09	12.00	11.00	4.00	8.00	5.90	5.00	5.00	4.00	4.00	4.00	4.00
3-10	12.00	10.00	9.00	9.00	6.40	5.50	5.00	4.00	4.00	4.00	4.00
3-11	14.00	11.00	9.00	8.00	6.40	5.50	4.50	3.00	3.00	3.00	3.00
3-12	16.00	13.00	10.00	8.00	6.40	5.00	4.00	4.00	4.00	3.00	3.00
3-13	16.00	16.00	11.00	10.00	7.00	6.00	5.00	4.00	4.00	3.00	3.00
3-14	15.00	11.00	10.00	9.00	6.40	5.00	4.00	4.00	4.00	2.00	2.00
3-15	15.00	11.00	10.00	9.00	6.40	5.00	4.00	4.00	4.00	2.00	2.00
3-16	12.00	11.00	9.60	7.00	5.90	4.50	3.00	3.00	3.00	2.00	2.00
3-17	32.00	20.00	10.00	9.40	6.70	6.00	4.50	3.00	3.00	3.00	3.00
3-18	54.00	17.00	12.00	10.00	7.00	6.00	5.00	3.00	3.00	3.00	3.00
3-19	26.00	17.00	11.00	10.00	8.00	6.00	4.00	3.00	3.00	2.00	2.00
3-20	26.00	20.00	12.00	11.00	7.00	6.00	4.00	4.00	4.00	2.00	2.00
3-21	16.00	11.00	10.00	9.00	6.40	5.00	4.00	4.00	4.00	2.00	2.00
3-22	16.00	11.00	10.00	9.00	6.40	5.00	4.00	4.00	4.00	2.00	2.00
3-23	51.00	40.00	13.00	9.70	9.60	6.00	5.00	3.00	3.00	3.00	3.00
3-24	67.00	43.00	17.00	15.00	9.60	6.00	5.00	4.00	4.00	3.00	3.00
3-25	70.00	36.00	30.00	18.00	9.40	7.00	5.00	4.00	4.00	3.00	3.00
3-26	64.00	36.00	21.00	16.00	10.00	7.00	5.00	4.00	4.00	2.00	2.00
3-27	71.00	16.00	3.2.00	16.00	9.60	7.50	6.00	5.00	5.00	2.00	2.00
3-28	47.00	47.00	4.0.00	20.00	16.00	9.70	9.00	6.00	6.00	3.00	3.00
3-29	37.00	29.00	13.00	10.00	9.70	9.00	6.00	5.00	5.00	3.00	3.00
3-30	120.00	32.00	21.00	14.00	10.00	7.50	5.30	4.50	4.50	3.00	3.00
3-31	147.00	57.00	74.00	19.00	10.00	7.40	6.00	4.50	4.50	4.00	4.00
4-1	77.00	63.00	27.00	22.00	12.00	11.00	6.40	5.00	5.00	4.00	4.00
4-2	45.00	47.00	26.00	25.00	15.00	11.00	7.00	6.00	6.00	4.00	4.00
4-3	27.10	18.90	11.40	14.40	9.21	7.44	6.25	5.30	5.30	4.24	4.24

DEPARTMENT OF STATE SURVEYS  
BUREAU OF THE CIVIL SERVICE

NOTIFICATION, DATED NOVEMBER 1, 1940, FOR DELIVERY, PERIOD BEGINNING OCTOBER 1937

NAME	10	20	30	50	70	80	90	100
W. J. J.	100.00	44.00	36.00	25.00	17.00	12.00	7.50	6.70
W. J. L.	75.00	41.00	35.00	24.00	15.00	12.00	7.00	5.00
W. J. M.	61.00	35.00	37.00	21.00	13.00	10.00	8.50	6.00
W. J. N.	52.00	46.00	37.00	23.00	15.00	12.00	11.00	7.00
W. J. O.	50.00	36.00	22.00	19.00	14.00	12.00	11.00	7.00
W. J. P.	56.00	32.00	28.00	25.00	20.00	16.00	15.00	9.50
W. J. Q.	70.00	43.00	34.00	29.00	22.00	15.00	12.00	7.00
W. J. R.	47.00	35.00	47.00	25.00	21.00	12.00	10.00	9.50
W. J. S.	100.00	60.00	34.00	27.00	21.00	14.00	12.00	11.00
W. J. T.	100.00	58.00	34.00	31.00	23.00	14.00	12.00	11.00
W. J. U.	111.00	55.00	40.00	39.50	21.00	15.00	12.00	11.00
W. J. V.	127.00	61.00	51.00	37.00	22.00	18.00	15.00	10.00
W. J. W.	95.00	61.00	61.00	60.00	25.00	20.00	16.00	8.50
W. J. X.	131.00	100.00	100.00	53.00	48.00	22.00	19.00	8.50
W. J. Y.	136.00	124.00	100.00	68.00	46.00	24.00	19.00	9.50
W. J. Z.	136.00	124.00	61.00	68.00	46.00	24.00	23.00	9.50
W. K. A.	166.00	166.00	94.00	51.00	41.00	24.00	19.00	9.50
W. K. B.	174.00	174.00	100.00	90.00	52.00	26.00	14.00	9.50
W. K. C.	181.00	181.00	117.00	108.00	63.00	26.00	14.00	8.70
W. K. D.	186.00	186.00	100.00	108.00	61.00	31.00	14.00	9.50
W. K. E.	176.00	176.00	100.00	119.00	65.00	26.00	19.00	11.00
W. K. F.	190.00	190.00	179.00	114.00	61.00	31.00	24.00	16.00
W. K. G.	184.00	150.00	127.00	100.00	53.00	34.00	31.00	25.00
W. K. H.	177.00	177.00	116.00	105.00	62.00	34.00	31.00	27.00
W. K. I.	194.00	120.00	113.00	104.00	61.00	33.00	29.00	21.00
W. K. J.	176.00	176.00	119.00	93.00	59.00	37.00	26.00	19.00
W. K. K.	190.00	190.00	143.00	114.00	61.00	31.00	24.00	16.00
W. K. L.	184.00	150.00	127.00	100.00	53.00	34.00	31.00	25.00
W. K. M.	177.00	177.00	116.00	105.00	62.00	34.00	31.00	27.00
W. K. N.	194.00	120.00	113.00	104.00	61.00	33.00	30.00	27.00
W. K. O.	336.00	169.00	149.00	104.00	61.00	24.00	40.00	21.00
W. K. P.	227.00	167.00	165.00	112.00	78.00	51.00	27.00	24.00
W. K. Q.	107.00	91.00	80.00	67.00	51.00	21.10	41.00	23.50
W. K. R.	107.00	91.00	80.00	67.00	51.00	21.10	41.00	19.70

UNITED STATES DEPARTMENT OF INTRIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

WATER LEVELS 1940/00 PLUNGING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

Alt.	10	20	30	50	70	80	90	100
0.0	197.00	175.00	146.00	116.00	75.00	49.00	30.00	25.00
0.2	163.00	175.00	145.00	115.00	79.00	61.00	48.00	32.00
0.4	261.00	233.00	185.00	111.00	82.00	57.00	54.00	29.00
0.6	209.00	271.00	155.00	120.00	91.00	66.00	51.00	27.00
0.8	244.00	191.00	126.00	116.00	93.00	67.00	56.00	27.00
1.0	171.00	163.00	136.00	126.00	99.00	73.00	67.00	26.00
1.2	241.00	193.00	136.00	126.00	90.00	67.00	56.00	26.00
1.4	231.00	221.00	131.00	129.00	86.00	64.00	57.00	27.00
1.6	219.00	205.00	135.00	130.00	87.00	67.00	59.00	27.00
1.8	216.00	176.00	142.00	127.00	87.00	67.00	63.00	27.00
2.0	140.00	161.00	150.00	143.00	87.00	74.00	56.00	33.00
2.2	237.00	176.00	156.00	145.00	91.00	71.00	66.00	49.00
2.4	272.00	167.00	157.00	142.00	91.00	71.00	62.00	49.00
2.6	191.00	167.00	161.00	147.00	106.00	74.00	69.00	63.00
2.8	156.00	156.00	154.00	147.00	129.00	74.00	63.00	49.00
3.0	167.00	164.00	150.00	146.00	91.00	70.00	64.00	52.00
3.2	214.00	162.00	162.00	149.00	111.00	68.00	61.00	54.00
3.4	256.00	175.00	153.00	140.00	85.00	69.00	65.00	51.00
3.6	263.00	171.00	151.00	131.00	91.00	63.00	67.00	56.00
3.8	312.00	150.00	140.00	122.00	95.00	73.00	63.00	51.00
4.0	550.00	278.00	193.00	112.00	100.00	74.00	59.00	33.00
4.2	636.00	360.00	212.00	144.00	95.00	74.00	57.00	32.00
4.4	325.00	511.00	247.00	165.00	82.00	69.00	59.00	34.00
4.6	312.00	312.00	235.00	147.00	77.00	70.00	61.00	22.00
4.8	311.00	360.00	193.00	135.00	93.00	72.00	57.00	24.00
5.0	311.00	311.00	174.00	161.00	101.00	75.00	52.00	21.00
5.2	246.00	224.00	160.00	143.00	116.00	69.00	67.00	17.00
5.4	206.00	206.00	201.00	166.00	106.00	49.00	26.00	9.00
5.6	301.00	301.00	160.00	156.00	106.00	49.00	29.00	9.00
5.8	675.00	706.00	161.00	160.00	94.00	65.00	41.00	11.00
6.0	279.00	160.00	163.00	166.00	116.00	65.00	35.00	18.00
6.2	310.00	141.00	163.00	167.00	100.00	55.00	22.00	5.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION: 061940/00 PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

Month	0.00	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00
Oct-37	246.00	168.00	162.00	135.00	97.00	69.00	43.00	29.00	19.00	19.00	
Nov-37	252.60	191.00	147.00	135.00	101.00	65.00	37.00	30.00	19.00	19.00	
Dec-37	491.00	193.00	135.00	111.00	101.00	67.00	35.00	31.00	15.00	15.00	
Jan-38	696.00	175.00	137.00	129.00	104.00	69.00	67.00	40.00	14.00	14.00	
Feb-38	373.00	370.00	129.00	124.00	111.00	70.00	54.00	44.00	13.00	13.00	
Mar-38	274.00	271.00	136.00	129.00	110.00	78.00	67.00	28.00	15.00	15.00	
Apr-38	253.00	251.00	136.00	114.00	100.00	74.00	52.00	41.00	16.00	16.00	
May-38	250.00	179.00	136.00	122.00	97.00	69.00	60.00	52.00	18.00	18.00	
Jun-38	242.00	202.00	136.00	114.00	97.00	66.00	61.00	42.00	24.00	24.00	
Jul-38	300.00	271.00	167.00	119.00	90.00	61.00	46.00	22.00			
Aug-38	264.00	263.00	149.00	124.00	119.00	90.00	72.00	54.00	22.00		
Sep-38	274.00	149.00	125.00	119.00	100.00	71.00	64.00	42.00	24.00		
Oct-38	280.00	161.00	126.00	113.00	96.00	66.00	57.00	41.00	21.00		
Nov-38	245.00	167.00	127.00	106.00	91.00	66.00	49.00	39.00	16.00		
Dec-38	221.00	142.00	114.00	108.00	90.00	50.00	47.00	31.00	10.00		
Jan-39	152.00	152.00	111.00	105.00	106.00	50.00	45.00	36.00	11.00		
Feb-39	148.00	152.00	114.00	101.00	102.00	50.00	41.00	35.00	12.00		
Mar-39	136.00	139.00	147.00	103.00	69.00	50.00	39.00	32.00			
Apr-39	164.00	151.00	111.00	97.00	65.00	48.00	44.00	35.00			
May-39	163.00	124.00	103.00	102.00	69.00	49.00	45.00	39.00			
Jun-39	147.00	174.00	111.00	115.00	109.00	67.00	45.00	30.00	10.00		
Jul-39	130.00	140.00	97.00	102.00	67.00	47.00	41.00	35.00	12.00		
Aug-39	155.00	156.00	93.00	103.00	69.00	47.00	40.00	32.00	10.00		
Sep-39	154.00	149.00	93.00	111.00	71.00	53.00	44.00	35.00	12.00		
Oct-39	147.00	147.00	102.00	63.00	54.00	44.00	35.00	26.00	8.00		
Nov-39	136.00	136.00	97.00	101.00	67.00	45.00	30.00	21.00	8.00		
Dec-39	167.00	167.00	93.00	106.00	69.00	47.00	41.00	35.00	12.00		
Jan-40	137.00	95.00	82.00	71.00	46.00	40.00	36.00	16.00	6.00		
Feb-40	114.00	93.00	90.00	16.00	54.00	38.00	33.00	10.00	4.00		
Mar-40	216.00	153.00	113.00	100.00	100.00	54.90	51.20	42.50	24.00		

UNITED STATES DEPARTMENT OF INTERIOR  
GEODESICAL SURVEY - WATER AND SOLIDS DIVISION

STATES OF 1940/700 PLOTTING POINTS FOR LOCATION WORK IN THE 19-YEAR PERIOD BEGINNING OCTOBER 1940

POINT	W.L.H.	+10	-10	+50	-50	+100	-100	+100	-100	+100	-100
I-01	114.00	110.00	108.00	102.00	66.00	37.00	33.00	10.00	10.00	16.00	16.00
I-02	103.00	101.00	98.00	61.00	66.00	67.00	37.00	21.00	21.00	16.00	16.00
I-03	93.00	79.00	79.00	79.00	66.00	45.00	38.00	27.00	27.00	16.00	16.00
I-04	94.00	67.00	72.00	72.00	58.00	43.00	37.00	28.00	28.00	15.00	15.00
I-05	95.00	67.00	69.00	69.00	43.00	38.00	38.00	26.00	26.00	15.00	15.00
I-06	21.00	65.50	67.00	64.00	41.00	32.00	32.00	26.00	26.00	12.00	12.00
I-07	32.00	60.00	63.00	56.00	26.00	20.00	20.00	17.00	17.00	11.00	11.00
I-08	79.00	77.00	63.00	44.00	36.00	29.00	19.00	16.00	16.00	12.00	12.00
I-09	76.00	72.00	57.00	42.00	34.00	26.00	20.00	14.00	14.00	12.00	12.00
I-10	62.00	63.00	57.00	41.00	34.00	25.00	19.00	14.00	14.00	11.00	11.00
I-11	49.00	66.00	60.00	43.00	32.00	25.00	17.00	13.00	13.00	11.00	11.00
I-12	64.00	64.00	58.00	54.00	20.00	26.00	17.00	14.00	14.00	12.00	12.00
I-13	63.00	62.00	60.00	42.00	26.00	28.00	19.00	13.00	13.00	11.00	11.00
I-14	66.00	53.00	65.00	54.00	34.00	26.00	17.00	13.00	13.00	12.00	12.00
I-15	52.00	61.00	43.00	33.00	25.00	24.00	17.00	13.00	13.00	12.00	12.00
I-16	56.00	59.00	44.00	30.00	26.00	22.00	14.00	13.00	13.00	10.00	10.00
I-17	69.00	53.00	39.00	30.00	23.00	21.00	14.00	11.00	11.00	8.00	8.00
I-18	54.00	51.00	38.00	26.00	23.00	20.00	12.00	12.00	12.00	9.00	9.00
I-19	51.00	49.00	36.00	27.00	22.00	19.00	13.00	12.00	12.00	8.00	8.00
I-20	50.00	47.00	37.00	27.00	20.00	19.00	15.00	11.00	11.00	8.00	8.00
I-21	58.00	47.00	31.00	27.00	17.00	17.00	14.00	11.00	11.00	8.00	8.00
I-22	64.00	64.00	41.00	26.00	13.00	13.00	10.00	9.00	9.00	6.00	6.00
I-23	52.00	47.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-24	40.00	49.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-25	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-26	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-27	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-28	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-29	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-30	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-31	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-32	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-33	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-34	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-35	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-36	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-37	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-38	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-39	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-40	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-41	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-42	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-43	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-44	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-45	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-46	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-47	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-48	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-49	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-50	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-51	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-52	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-53	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-54	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-55	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-56	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-57	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-58	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-59	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-60	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-61	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-62	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-63	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-64	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-65	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-66	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-67	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-68	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-69	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-70	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-71	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-72	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-73	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-74	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-75	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-76	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-77	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-78	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-79	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-80	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-81	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-82	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-83	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-84	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-85	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-86	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-87	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-88	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-89	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-90	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-91	46.00	46.00	33.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-92	44.00	44.00	31.00	27.00	13.00	13.00	11.00	8.00	8.00	5.00	5.00
I-93	42.00	42.00	34.00	27.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-94	40.00	47.00	39.00	26.00	13.00	12.00	10.00	8.00	8.00	5.00	5.00
I-95	43.00	46.00	36.00	24.00	13.00	13.00	11.00	8.00	8.00</		

UNIVERSITY STAFFS DEPARTMENT OF INTERIOR  
GEODRICAL SURVEY - WATER RESOURCES DIVISION

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

STATION NUMBER	PLOTTING POINT	• 10	• 20	• 30	• 40	• 50	• 60	• 70	• 80	• 90	100
1-2-01	47-00	38-00	24-00	18-00	14-00	10-00	8-20	6-00	5-00	5-00	5-00
1-2-02	48-00	32-00	20-00	19-00	14-00	10-20	7-70	5-30	4-70	4-70	4-70
1-2-03	34-00	29-00	26-00	19-00	12-00	8-00	7-40	5-30	4-40	4-40	4-40
1-2-04	22-00	32-00	21-00	20-00	11-00	8-40	7-70	6-70	5-30	5-30	5-30
1-2-05	55-00	34-00	17-00	18-00	9-70	8-00	7-70	5-30	3-60	3-60	3-60
1-2-06	90-00	29-00	19-00	18-00	12-00	7-10	7-20	4-60	2-60	2-60	2-60
1-2-07	66-00	29-00	20-00	17-00	11-00	7-40	6-50	4-60	3-00	3-00	3-00
1-2-08	42-00	24-00	16-00	16-00	13-00	7-40	6-00	4-20	3-70	3-70	3-70
1-2-09	41-00	23-00	18-00	16-20	12-00	7-20	6-50	5-40	3-70	3-70	3-70
1-2-10	31-00	23-00	15-00	15-00	11-00	7-10	5-60	5-10	3-50	3-50	3-50
1-2-11	49-00	31-00	17-00	15-00	10-00	7-20	5-70	4-40	2-70	2-70	2-70
1-2-12	63-00	34-00	17-00	16-00	9-70	7-60	6-10	4-40	3-00	3-00	3-00
1-2-13	15-00	13-00	11-00	9-70	7-10	6-10	5-40	4-10	3-10	3-10	3-10
1-2-14	31-00	30-00	16-00	16-00	9-70	7-10	6-00	4-10	3-10	3-10	3-10
1-2-15	17-00	20-00	16-00	16-00	9-70	7-10	6-00	4-10	3-10	3-10	3-10
1-2-16	25-00	15-00	16-00	15-00	10-00	7-10	6-40	5-10	3-10	3-10	3-10
1-2-17	24-00	14-00	14-00	14-00	9-20	7-90	6-50	5-00	3-00	3-00	3-00
1-2-18	26-00	20-00	14-00	14-00	9-20	7-70	6-70	5-50	3-50	3-50	3-50
1-2-19	23-00	11-00	16-00	12-00	9-10	7-70	6-70	5-50	3-50	3-50	3-50
1-2-20	27-00	21-00	16-00	16-00	8-80	7-10	6-00	5-00	3-00	2-60	2-60
1-2-21	24-00	21-00	16-00	14-00	9-70	7-10	6-00	4-40	3-00	3-00	3-00
1-2-22	21-00	19-00	13-00	13-00	8-70	7-20	6-60	4-40	2-40	2-40	2-40
1-2-23	20-00	13-00	13-00	10-00	8-00	6-90	6-40	4-40	3-00	3-00	3-00
1-2-24	20-00	10-00	10-00	9-10	7-00	6-70	5-10	4-10	2-10	2-10	2-10
1-2-25	17-00	19-00	13-00	11-00	10-00	8-00	7-20	6-00	3-00	3-00	3-00
1-2-26	20-00	19-00	13-00	13-00	9-70	8-00	7-10	5-10	3-10	3-10	3-10
1-2-27	19-00	18-00	13-00	11-00	10-00	9-20	7-20	6-60	4-40	4-40	4-40
1-2-28	19-00	17-00	16-00	11-00	10-00	8-00	7-20	6-60	4-40	4-40	4-40
1-2-29	17-00	17-00	16-00	12-00	10-00	9-00	7-00	5-60	4-70	4-70	4-70
1-2-30	16-00	17-00	14-00	12-00	10-00	8-40	7-70	6-60	4-40	4-40	4-40
1-2-31	16-00	15-00	13-00	13-00	10-00	8-40	7-20	5-10	3-10	3-10	3-10
STATION NUMBER	PLOTTING POINT	24-70	16-50	13-40	10-30	8-20	7-10	6-00	4-56	3-56	3-56

UNITED STATES DEPARTMENT OF INTERIOR  
GEODRITICAL SURVEY - WATERSOURCES DIVISION

STATION No. 1940/000 PLANNING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

Point	Height	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00
9-001	19.00	16.00	16.00	12.00	9.30	8.40	6.40	5.10	4.70	4.70	
9-002	18.00	16.00	16.00	15.00	9.50	8.00	6.70	5.60	5.70	5.70	
9-003	21.00	17.00	16.00	13.00	11.00	8.40	7.60	4.40	4.00	4.00	
9-004	19.00	18.00	17.00	14.00	9.20	8.20	8.00	4.60	4.60	4.60	
9-005	17.00	15.00	15.00	12.00	8.40	8.00	5.10	3.70	3.70	3.70	
10-006	17.00	16.00	16.00	14.00	11.00	9.70	6.70	5.40	5.40	5.40	
10-007	15.00	15.00	14.00	13.00	11.00	9.40	6.00	6.00	6.00	6.00	
10-008	14.00	14.00	14.00	13.00	11.00	9.00	6.00	6.00	5.90	5.90	
10-009	19.00	18.00	16.00	12.00	11.00	9.00	8.40	5.40	5.40	5.40	
10-010	19.00	19.00	15.00	13.00	11.00	9.30	8.40	6.00	6.00	6.00	
10-011	21.00	17.00	13.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-012	18.00	17.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-013	17.00	17.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-014	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-015	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-016	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-017	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-018	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-019	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-020	17.00	15.00	14.00	12.00	10.00	9.40	7.70	5.40	5.40	5.40	
10-021	19.00	16.00	14.00	13.00	11.00	8.90	7.50	6.00	6.00	6.00	
10-022	20.00	16.00	14.00	13.00	11.00	8.90	7.50	6.60	6.60	6.60	
10-023	25.00	16.00	14.00	13.00	11.00	9.20	7.50	6.00	5.10	5.10	
10-024	26.00	17.00	14.00	12.00	9.90	9.00	7.30	5.40	5.30	5.30	
10-025	21.00	16.00	14.00	12.00	10.00	9.00	7.00	5.40	5.40	5.40	
10-026	24.00	21.00	16.00	13.00	9.70	8.40	6.90	5.40	5.40	5.40	
10-027	25.00	16.00	16.00	13.00	9.50	8.90	6.90	5.40	5.40	5.40	
10-028	20.00	16.00	14.00	11.00	8.90	6.30	5.60	5.10	5.10	5.10	
10-029	17.00	14.00	13.00	11.00	8.20	6.40	5.10	5.10	5.10	5.10	
10-030	20.00	17.00	16.00	14.00	11.00	8.20	6.90	5.60	5.60	5.60	
10-031	21.00	16.00	17.00	14.00	11.00	8.20	7.00	5.40	5.40	5.40	
10-032	21.00	16.00	17.00	14.00	11.00	8.20	7.00	5.40	5.40	5.40	
10-033	21.00	16.00	17.00	14.00	11.00	8.20	7.00	5.40	5.40	5.40	
10-034	26.00	16.00	16.00	14.00	11.00	8.40	6.90	5.60	5.60	5.60	
10-035	27.00	16.00	16.00	14.00	11.00	8.40	6.90	5.60	5.60	5.60	
10-036	22.00	20.00	13.00	13.00	10.00	9.70	8.20	5.60	5.60	5.60	
10-037	16.00	15.00	12.00	12.00	10.00	9.74	7.98	5.71	5.71	5.71	

WILLIAM STANLEY BURRARD OF BRUNSWICK,  
OF THE STATE OF NEW YORK, ON THE 15TH DAY  
OF JUNE, 1870.

THE STATE OF MARYLAND, on the 1<sup>st</sup> day of January, A.D. 1861.

卷之三

UNITED STATES DEPARTMENT OF INTERIOR  
GEODIGICAL SURVEY - WATER AND GULF DIVISION

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 19-YEAR PERIOD BEGINNING OCTOBER 1937

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION,

STATION 0672095/00

RICK CREEK NEAR RED LODGE, MT.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.50	.70	.80	.90	LOW
1-01	53.00	45.00	45.00	38.00	35.00	33.00	28.00	26.00
1-02	51.00	46.00	44.00	42.00	37.00	35.00	32.00	29.00
1-03	51.00	45.00	44.00	41.00	37.00	35.00	32.00	25.00
1-04	50.00	45.00	42.00	41.00	37.00	35.00	33.00	25.00
1-05	50.00	44.00	41.00	41.00	36.00	35.00	33.00	25.00
1-06	49.00	45.00	43.00	40.00	36.00	34.00	32.00	27.00
1-07	50.00	44.00	43.00	41.00	37.00	35.00	32.00	26.00
1-08	48.00	44.00	42.00	39.00	37.00	34.00	32.00	26.00
1-09	47.00	45.00	41.00	40.00	36.00	34.00	31.00	27.00
1-10	47.00	44.00	42.00	40.00	36.00	32.00	32.00	27.00
1-11	52.00	44.00	41.00	40.00	36.00	33.00	32.00	30.00
1-12	52.00	45.00	42.00	41.00	37.00	33.00	32.00	26.00
1-13	56.00	44.00	41.00	39.00	37.00	35.00	31.00	28.00
1-14	49.00	45.00	40.00	37.00	36.00	34.00	31.00	25.00
1-15	56.00	44.00	40.00	39.00	36.00	33.00	30.00	28.00
1-16	76.00	45.00	39.00	38.00	35.00	32.00	30.00	18.00
1-17	52.00	43.00	40.00	38.00	35.00	32.00	31.00	27.00
1-18	47.00	45.00	41.00	38.00	35.00	32.00	31.00	26.00
1-19	47.00	44.00	40.00	38.00	35.00	33.00	28.00	25.00
1-20	45.00	43.00	40.00	37.00	35.00	33.00	30.00	26.00
1-21	48.00	43.00	39.00	37.00	35.00	32.00	30.00	25.00
1-22	52.00	41.00	40.00	37.00	35.00	32.00	30.00	26.00
1-23	52.00	40.00	38.00	38.00	35.00	32.00	31.00	27.00
1-24	52.00	40.00	38.00	36.00	35.00	32.00	30.00	29.00
1-25	47.00	40.00	38.00	37.00	34.00	32.00	31.00	28.00
1-26	47.00	42.00	39.00	36.00	33.00	32.00	30.00	25.00
1-27	45.00	42.00	38.00	36.00	34.00	31.00	30.00	25.00
1-28	43.00	40.00	38.00	36.00	35.00	31.00	30.00	25.00
1-29	41.00	38.00	38.00	36.00	35.00	32.00	30.00	26.00
1-30	43.00	39.00	37.00	36.00	34.00	32.00	30.00	27.00
1-31	43.00	40.00	38.00	37.00	34.00	32.00	31.00	27.00
MEAN	44.50	41.50	39.30	38.40	35.50	33.50	32.00	29.50

## STATE OF CALIFORNIA - DEPARTMENT OF WATER RESOURCES DIVISION

STATION 06/2095/00 RICK CREEK NEAR RED LIONE, MT.

DATE PROCESSED--11/23/82

## PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.90	1.00	1.20	LIN
2-01	43.00	40.00	38.00	36.00	34.00	32.00	30.00	30.00	30.00	26.00
2-02	44.00	39.00	38.00	36.00	34.00	32.00	30.00	30.00	30.00	25.00
2-03	44.00	39.00	38.00	36.00	34.00	32.00	30.00	30.00	30.00	25.00
2-04	43.00	40.00	38.00	36.00	34.00	32.00	30.00	30.00	30.00	25.00
2-05	44.00	39.00	38.00	36.00	34.00	32.00	30.00	30.00	30.00	25.00
2-06	48.00	39.00	37.00	35.00	34.00	31.00	30.00	30.00	29.00	25.00
2-07	52.00	38.00	36.00	35.00	33.00	31.00	30.00	30.00	29.00	26.00
2-08	52.00	36.00	35.00	35.00	32.00	30.00	30.00	30.00	28.00	26.00
2-09	51.00	36.00	35.00	34.00	32.00	30.00	30.00	30.00	27.00	25.00
2-10	50.00	37.00	35.00	34.00	32.00	30.00	29.00	29.00	27.00	23.00
2-11	50.00	38.00	35.00	34.00	31.00	30.00	28.00	28.00	26.00	23.00
2-12	48.00	41.00	36.00	34.00	31.00	30.00	29.00	29.00	28.00	24.00
2-13	44.00	40.00	35.00	34.00	32.00	30.00	28.00	28.00	27.00	24.00
2-14	50.00	39.00	35.00	34.00	32.00	30.00	28.00	28.00	26.00	23.00
2-15	49.00	38.00	36.00	34.00	32.00	30.00	28.00	28.00	26.00	21.00
2-16	49.00	39.00	36.00	34.00	32.00	30.00	28.00	28.00	27.00	22.00
2-17	47.00	38.00	36.00	34.00	32.00	30.00	29.00	29.00	27.00	22.00
2-18	45.00	36.00	36.00	34.00	32.00	30.00	29.00	29.00	25.00	23.00
2-19	42.00	38.00	36.00	35.00	32.00	30.00	29.00	29.00	25.00	24.00
2-20	42.00	37.00	36.00	34.00	32.00	30.00	30.00	30.00	25.00	22.00
2-21	43.00	38.00	35.00	33.00	32.00	30.00	28.00	28.00	26.00	18.00
2-22	42.00	37.00	34.00	34.00	32.00	29.00	28.00	28.00	26.00	16.00
2-23	42.00	37.00	34.00	33.00	31.00	28.00	27.00	27.00	25.00	16.00
2-24	42.00	35.00	34.00	33.00	31.00	28.00	26.00	26.00	23.00	20.00
2-25	42.00	36.00	35.00	33.00	30.00	28.00	26.00	26.00	23.00	20.00
2-26	43.00	38.00	36.00	33.00	30.00	28.00	26.00	26.00	24.00	22.00
2-27	39.00	37.00	36.00	32.00	31.00	28.00	27.00	27.00	24.00	23.00
2-28	39.00	38.00	35.00	33.00	30.00	29.00	27.00	27.00	25.00	23.00
MEAN	42.40	35.70	35.00	33.40	32.40	30.40	29.40	29.40	27.10	25.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 RUCK CREEK NEAR RED LODGE, MT.

DATE PROCESSED--11/23/02

PLOTTING POINTS FOR CUMULUS HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH		LOW			
	*10	*20	*50	*70	*80	*90
3-01	40.00	37.00	33.00	32.00	27.00	24.00
3-02	40.00	37.00	33.00	32.00	27.00	24.00
3-03	36.00	35.00	32.00	30.00	28.00	25.00
3-04	45.00	35.00	34.00	33.00	30.00	26.00
3-05	41.00	36.00	34.00	33.00	30.00	26.00
3-06	39.00	36.00	34.00	33.00	30.00	28.00
3-07	39.00	36.00	35.00	33.00	30.00	29.00
3-08	39.00	36.00	35.00	33.00	30.00	27.00
3-09	44.00	36.00	35.00	33.00	30.00	28.00
3-10	40.00	36.00	35.00	33.00	30.00	28.00
3-11	39.00	36.00	34.00	32.00	28.00	25.00
3-12	39.00	36.00	34.00	32.00	28.00	25.00
3-13	39.00	37.00	34.00	32.00	28.00	26.00
3-14	39.00	35.00	34.00	32.00	28.00	26.00
3-15	39.00	36.00	35.00	32.00	28.00	27.00
3-16	40.00	35.00	32.00	30.00	28.00	27.00
3-17	56.00	37.00	33.00	31.00	30.00	28.00
3-18	44.00	36.00	33.00	32.00	30.00	29.00
3-19	45.00	36.00	33.00	32.00	30.00	28.00
3-20	43.00	35.00	33.00	32.00	30.00	28.00
3-21	42.00	35.00	33.00	32.00	30.00	28.00
3-22	45.00	35.00	33.00	32.00	30.00	28.00
3-23	45.00	36.00	34.00	32.00	30.00	29.00
3-24	42.00	36.00	33.00	32.00	30.00	27.00
3-25	43.00	36.00	33.00	32.00	30.00	27.00
3-26	42.00	35.00	32.00	30.00	27.00	27.00
3-27	42.00	36.00	33.00	32.00	30.00	28.00
3-28	67.00	36.00	34.00	32.00	30.00	29.00
3-29	102.00	37.00	35.00	34.00	30.00	29.00
3-30	71.00	41.00	36.00	34.00	31.00	29.00
3-31	64.00	40.00	36.00	35.00	32.00	29.00
MEAN	39.70	34.20	33.10	32.50	30.10	28.90

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

MAIL NO. 6672075, RUCK CREEK NEAR RED LIDGE, MT.

DATE PHILADELPHIA - 11/25/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LIN
4-01	52.00	39.00	36.00	34.00	32.00	29.00	28.00	26.00	20.00
4-02	42.00	38.00	36.00	34.00	32.00	29.00	28.00	25.00	22.00
4-03	43.00	38.00	34.00	33.00	32.00	29.00	28.00	25.00	22.00
4-04	47.00	39.00	35.00	33.00	32.00	29.00	28.00	25.00	23.00
4-05	58.00	42.00	35.00	34.00	32.00	30.00	28.00	26.00	25.00
4-06	70.00	46.00	39.00	36.00	35.00	30.00	29.00	28.00	26.00
4-07	66.00	48.00	41.00	36.00	35.00	31.00	30.00	29.00	24.00
4-08	66.00	45.00	40.00	36.00	35.00	31.00	30.00	28.00	25.00
4-09	69.00	44.00	42.00	37.00	34.00	31.00	30.00	29.00	24.00
4-10	80.00	44.00	40.00	38.00	35.00	32.00	31.00	29.00	24.00
4-11	80.00	46.00	39.00	38.00	36.00	31.00	30.00	30.00	24.00
4-12	76.00	44.00	40.00	37.00	35.00	32.00	31.00	30.00	24.00
4-13	42.00	49.00	41.00	38.00	35.00	32.00	31.00	30.00	24.00
4-14	44.00	46.00	41.00	40.00	39.00	32.00	31.00	30.00	24.00
4-15	96.00	47.00	41.00	39.00	36.00	33.00	32.00	30.00	22.00
4-16	108.00	48.00	42.00	40.00	36.00	34.00	32.00	30.00	23.00
4-17	110.00	48.00	43.00	41.00	38.00	33.00	32.00	30.00	23.00
4-18	117.00	51.00	45.00	45.00	37.00	34.00	32.00	30.00	24.00
4-19	128.00	53.00	45.00	41.00	37.00	35.00	32.00	29.00	25.00
4-20	149.00	64.00	47.00	41.00	34.00	33.00	32.00	29.00	24.00
4-21	151.00	62.00	53.00	41.00	35.00	36.00	33.00	30.00	24.00
4-22	144.00	60.00	56.00	45.00	39.00	37.00	35.00	34.00	24.00
4-23	142.00	72.00	54.00	44.00	41.00	36.00	33.00	31.00	24.00
4-24	158.00	80.00	56.00	45.00	41.00	35.00	32.00	29.00	24.00
4-25	154.00	94.00	66.00	55.00	42.00	35.00	32.00	30.00	23.00
4-26	142.00	107.00	74.00	51.00	45.00	36.00	33.00	32.00	25.00
4-27	128.00	102.00	76.00	56.00	46.00	38.00	35.00	31.00	25.00
4-28	121.00	103.00	88.00	56.00	46.00	41.00	34.00	30.00	24.00
4-29	150.00	104.00	83.00	56.00	42.00	35.00	32.00	30.00	25.00
4-30	243.00	117.00	69.00	60.00	50.00	41.00	38.00	32.00	26.00
MEAN	99.20	57.50	48.10	43.40	33.80	33.10	33.00	30.90	24.40

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

	DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
	5-01	230.00	132.00	88.00	63.00	53.00	43.00	39.00	35.00	26.00
	5-02	250.00	149.00	87.00	72.00	53.00	43.00	40.00	36.00	28.00
	5-03	270.00	148.00	90.00	78.00	55.00	48.00	42.00	40.00	29.00
	5-04	295.00	164.00	106.00	86.00	62.00	50.00	46.00	40.00	31.00
	5-05	260.00	174.00	109.00	95.00	70.00	54.00	48.00	41.00	33.00
	5-06	281.00	174.00	129.00	111.00	82.00	59.00	50.00	41.00	32.00
	5-07	355.00	230.00	160.00	111.00	87.00	60.00	52.00	40.00	32.00
	5-08	500.00	237.00	151.00	121.00	85.00	66.00	52.00	45.00	32.00
	5-09	628.00	249.00	157.00	144.00	90.00	65.00	59.00	46.00	32.00
	5-10	548.00	294.00	189.00	154.00	92.00	66.00	62.00	49.00	33.00
	5-11	412.00	267.00	213.00	160.00	119.00	66.00	61.00	53.00	36.00
	5-12	345.00	262.00	218.00	192.00	129.00	75.00	60.00	52.00	41.00
	5-13	310.00	274.00	243.00	192.00	113.00	85.00	59.00	52.00	40.00
	5-14	436.00	322.00	227.00	187.00	117.00	85.00	73.00	54.00	47.00
	5-15	590.00	302.00	211.00	178.00	131.00	97.00	78.00	59.00	55.00
	5-16	628.00	290.00	234.00	192.00	152.00	102.00	95.00	74.00	56.00
	5-17	572.00	306.00	254.00	213.00	150.00	125.00	100.00	78.00	52.00
	5-18	599.00	340.00	302.00	254.00	169.00	125.00	102.00	79.00	55.00
	5-19	595.00	416.00	314.00	298.00	180.00	129.00	106.00	82.00	55.00
	5-20	860.00	584.00	365.00	290.00	205.00	131.00	104.00	91.00	61.00
	5-21	1140.00	604.00	448.00	286.00	249.00	144.00	96.00	90.00	79.00
	5-22	1350.00	572.00	425.00	350.00	258.00	162.00	125.00	93.00	68.00
	5-23	1350.00	554.00	436.00	400.00	240.00	175.00	138.00	96.00	85.00
	5-24	1070.00	626.00	530.00	430.00	242.00	162.00	151.00	100.00	85.00
	5-25	955.00	689.00	622.00	496.00	284.00	172.00	146.00	119.00	81.00
	5-26	940.00	689.00	577.00	514.00	290.00	185.00	144.00	129.00	86.00
	5-27	981.00	778.00	674.00	550.00	360.00	214.00	152.00	133.00	98.00
	5-28	1310.00	846.00	660.00	435.00	221.00	181.00	131.00	111.00	
	5-29	1080.00	778.00	715.00	646.00	486.00	230.00	174.00	143.00	
	5-30	830.00	667.00	611.00	442.00	241.00	210.00	162.00	108.00	
	5-31	1180.00	778.00	646.00	553.00	375.00	193.00	139.00	116.00	
	MEAN	460.00	345.00	311.00	274.00	221.00	143.00	123.00	109.00	87.60

GOVERNMENT OF THE UNITED STATES OF AMERICA - DEPARTMENT OF INTERIOR  
GEODESICAL SURVEY - WATER RESOURCES DIVISION

CLIMATE 06/2095/00 ROCK CREEK NEAR RED LODGE, MT.

DATE PROCESSED=11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	• 10	• 20	• 30	• 50	• 70	• 80	• 90	LW
6-01	1140.00	804.00	666.00	576.00	388.00	292.00	222.00	183.00	127.00
6-02	1120.00	860.00	693.00	576.00	370.00	305.00	235.00	177.00	148.00
6-03	1250.00	1050.00	733.00	576.00	435.00	310.00	284.00	206.00	144.00
6-04	2170.00	1670.00	765.00	589.00	432.00	363.00	308.00	215.00	136.00
6-05	2370.00	1130.00	743.00	590.00	485.00	390.00	359.00	266.00	136.00
6-06	1950.00	964.00	828.00	674.00	576.00	430.00	345.00	260.00	138.00
6-07	1980.00	1120.00	835.00	654.00	595.00	419.00	342.00	230.00	191.00
6-08	1680.00	1130.00	916.00	722.00	563.00	374.00	333.00	246.00	185.00
6-09	2900.00	1140.00	912.00	771.00	546.00	408.00	292.00	253.00	185.00
6-10	1520.00	1169.00	931.00	759.00	492.00	432.00	380.00	256.00	200.00
6-11	1160.00	1060.00	849.00	674.00	542.00	431.00	377.00	340.00	192.00
6-12	1110.00	1020.00	758.00	702.00	605.00	470.00	405.00	315.00	197.00
6-13	1230.00	962.00	865.00	613.00	604.00	441.00	414.00	315.00	228.00
6-14	1120.00	1080.00	825.00	600.00	562.00	488.00	412.00	316.00	266.00
6-15	1330.00	1110.00	978.00	749.00	580.00	478.00	420.00	310.00	276.00
6-16	1490.00	1050.00	882.00	758.00	576.00	490.00	404.00	312.00	281.00
6-17	1330.00	1020.00	880.00	782.00	546.00	472.00	426.00	314.00	262.00
6-18	1420.00	986.00	870.00	786.00	599.00	440.00	386.00	320.00	237.00
6-19	1530.00	1060.00	877.00	765.00	608.00	445.00	404.00	345.00	228.00
6-20	1580.00	1150.00	948.00	622.00	608.00	491.00	432.00	350.00	202.00
6-21	1460.00	1220.00	1010.00	880.00	625.00	492.00	408.00	386.00	255.00
6-22	1670.00	1170.00	1080.00	890.00	641.00	514.00	440.00	381.00	252.00
6-23	1520.00	1280.00	978.00	772.00	686.00	518.00	430.00	381.00	270.00
6-24	1390.00	1220.00	960.00	617.00	335.00	511.00	448.00	372.00	277.00
6-25	1420.00	1260.00	902.00	614.00	556.00	494.00	437.00	350.00	281.00
6-26	1260.00	1160.00	956.00	860.00	570.00	436.00	382.00	348.00	281.00
6-27	1230.00	1120.00	960.00	905.00	625.00	403.00	350.00	281.00	259.00
6-28	1340.00	988.00	674.00	776.00	615.00	431.00	400.00	350.00	241.00
6-29	1190.00	1000.00	821.00	744.00	583.00	462.00	348.00	360.00	345.00
6-30	1590.00	1030.00	863.00	744.00	532.00	433.00	360.00	345.00	225.00
MEAN	1130.00	898.00	822.00	729.00	619.00	487.00	444.00	409.00	327.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEODESICAL SURVEY - WATER RESOURCES DIVISION

DATE PUBLISHED--11/23/82

STATION 06/2095/00 RICK CREEK NEAR RED LUGGE, MI.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

	DATE	16m	10	20	30	50	70	100	140	180
1	7-01	1600.00	1090.00	870.00	779.00	532.00	406.00	350.00	308.00	205.00
1	7-02	1700.00	962.00	856.00	754.00	544.00	475.00	405.00	388.00	200.00
1	7-03	1690.00	891.00	806.00	703.00	562.00	492.00	470.00	297.00	235.00
1	7-04	1610.00	858.00	804.00	710.00	579.00	494.00	410.00	320.00	279.00
1	7-05	1610.00	860.00	756.00	710.00	538.00	488.00	435.00	355.00	262.00
1	7-06	1580.00	898.00	754.00	690.00	548.00	494.00	453.00	365.00	234.00
1	7-07	1460.00	955.00	800.00	721.00	573.00	511.00	455.00	341.00	236.00
1	7-08	1440.00	978.00	765.00	687.00	554.00	492.00	425.00	302.00	228.00
1	7-09	1440.00	912.00	744.00	635.00	552.00	479.00	412.00	308.00	222.00
1	7-10	1270.00	885.00	756.00	662.00	563.00	470.00	375.00	315.00	212.00
1	7-11	1130.00	865.00	725.00	655.00	572.00	462.00	420.00	306.00	194.00
1	7-12	1030.00	875.00	668.00	618.00	566.00	457.00	416.00	308.00	183.00
1	7-13	1040.00	842.00	646.00	615.00	560.00	448.00	426.00	320.00	194.00
1	7-14	1100.00	818.00	646.00	604.00	563.00	448.00	391.00	325.00	186.00
1	7-15	1130.00	818.00	615.00	580.00	540.00	431.00	365.00	308.00	180.00
1	7-16	1160.00	1060.00	721.00	620.00	542.00	418.00	375.00	309.00	190.00
1	7-17	1100.00	796.00	737.00	625.00	524.00	406.00	375.00	300.00	183.00
1	7-18	1096.00	799.00	681.00	604.00	490.00	394.00	366.00	297.00	191.00
1	7-19	1030.00	850.00	850.00	708.00	599.00	491.00	386.00	357.00	200.00
1	7-20	1140.00	854.00	638.00	590.00	452.00	379.00	360.00	302.00	203.00
1	7-21	1160.00	842.00	606.00	570.00	464.00	370.00	354.00	292.00	209.00
1	7-22	930.00	785.00	615.00	548.00	442.00	376.00	345.00	274.00	231.00
1	7-23	446.00	750.00	572.00	516.00	442.00	360.00	340.00	279.00	231.00
1	7-24	914.00	708.00	566.00	500.00	451.00	359.00	334.00	271.00	241.00
1	7-25	904.00	687.00	578.00	491.00	413.00	362.00	337.00	275.00	245.00
1	7-26	904.00	680.00	544.00	497.00	414.00	355.00	337.00	262.00	237.00
1	7-27	904.00	648.00	518.00	476.00	405.00	337.00	315.00	258.00	241.00
1	7-28	890.00	641.00	518.00	484.00	546.00	320.00	306.00	262.00	233.00
1	7-29	842.00	632.00	508.00	461.00	375.00	320.00	295.00	257.00	226.00
1	7-30	552.00	628.00	459.00	440.00	375.00	317.00	295.00	250.00	212.00
1	7-31	734.00	602.00	462.00	426.00	372.00	310.00	285.00	249.00	206.00
1	MEAN	1090.00	771.00	690.00	563.00	491.00	426.00	381.00	302.00	224.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

RATINGS 06/2095/00 ROCK CREEK NEAR RED LODGE, MT.

DATE PREVIOUSLY--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

	DATE	-116.00	-10	-20	-30	-40	-50	-60	-70	-80	-90	LOW
1	8-01	722.00	572.00	467.00	420.00	350.00	302.00	278.00	274.00	249.00	246.00	197.00
1	8-02	618.00	563.00	440.00	418.00	354.00	340.00	286.00	262.00	262.00	246.00	188.00
1	8-03	782.00	500.00	434.00	410.00	340.00	349.00	284.00	275.00	275.00	275.00	186.00
1	8-04	744.00	508.00	422.00	378.00	349.00	349.00	284.00	275.00	275.00	275.00	190.00
1	8-05	652.00	502.00	429.00	375.00	325.00	275.00	258.00	235.00	235.00	235.00	190.00
1	8-06	721.00	485.00	399.00	362.00	306.00	275.00	246.00	246.00	255.00	255.00	198.00
1	8-07	615.00	461.00	358.00	359.00	298.00	270.00	238.00	238.00	226.00	226.00	198.00
1	8-08	600.00	443.00	390.00	350.00	284.00	262.00	238.00	238.00	223.00	223.00	176.00
1	8-09	550.00	431.00	366.00	322.00	284.00	251.00	245.00	245.00	209.00	209.00	184.00
1	8-10	499.00	416.00	340.00	350.00	285.00	252.00	242.00	242.00	200.00	200.00	190.00
1	8-11	474.00	424.00	330.00	320.00	270.00	246.00	234.00	234.00	197.00	197.00	172.00
1	8-12	455.00	420.00	320.00	298.00	271.00	246.00	230.00	230.00	198.00	198.00	163.00
1	8-13	504.00	400.00	316.00	306.00	264.00	246.00	227.00	227.00	198.00	198.00	160.00
1	8-14	474.00	405.00	312.00	294.00	258.00	241.00	227.00	227.00	195.00	195.00	154.00
1	8-15	434.00	398.00	314.00	290.00	250.00	231.00	220.00	220.00	190.00	190.00	144.00
1	8-16	409.00	370.00	305.00	290.00	242.00	230.00	216.00	216.00	202.00	202.00	147.00
1	8-17	406.00	354.00	333.00	288.00	245.00	227.00	212.00	212.00	145.00	145.00	140.00
1	8-18	364.00	340.00	324.00	281.00	241.00	217.00	210.00	210.00	148.00	148.00	134.00
1	8-19	355.00	340.00	326.00	270.00	242.00	223.00	204.00	204.00	160.00	160.00	130.00
1	8-20	364.00	352.00	320.00	284.00	245.00	214.00	207.00	207.00	142.00	142.00	130.00
1	8-21	576.00	330.00	312.00	270.00	234.00	216.00	197.00	197.00	175.00	175.00	137.00
1	8-22	420.00	324.00	289.00	266.00	241.00	214.00	194.00	194.00	164.00	164.00	132.00
1	8-23	425.00	340.00	274.00	258.00	234.00	208.00	194.00	194.00	160.00	160.00	132.00
1	8-24	592.00	340.00	271.00	254.00	227.00	197.00	183.00	183.00	155.00	155.00	140.00
1	8-25	576.00	312.00	266.00	255.00	225.00	187.00	177.00	177.00	142.00	142.00	140.00
1	8-26	532.00	286.00	254.00	245.00	217.00	182.00	172.00	172.00	152.00	152.00	140.00
1	8-27	288.00	270.00	246.00	238.00	217.00	185.00	172.00	172.00	145.00	145.00	137.00
1	8-28	274.00	266.00	246.00	230.00	205.00	178.00	171.00	171.00	141.00	141.00	126.00
1	8-29	335.00	266.00	243.00	226.00	197.00	175.00	170.00	170.00	144.00	144.00	120.00
1	8-30	520.00	250.00	239.00	222.00	193.00	175.00	164.00	164.00	137.00	137.00	118.00
1	8-31	430.00	254.00	215.00	197.00	168.00	152.00	152.00	152.00	154.00	154.00	120.00
1	MEAN	427.00	364.00	306.00	291.00	267.00	237.00	225.00	225.00	201.00	201.00	158.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE, MT.

DATE PROCESSED--11/25/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

DATE	HIGH	.10	.20	.50	.70	.80	.90	LOW
9-01	395.00	262.00	221.00	209.00	188.00	165.00	160.00	152.00
9-02	350.00	254.00	220.00	197.00	187.00	175.00	157.00	144.00
9-03	375.00	246.00	223.00	207.00	184.00	167.00	152.00	138.00
9-04	345.00	227.00	216.00	202.00	182.00	164.00	150.00	131.00
9-05	314.00	217.00	206.00	205.00	182.00	159.00	150.00	130.00
9-06	294.00	210.00	194.00	172.00	156.00	144.00	128.00	102.00
9-07	298.00	241.00	204.00	186.00	172.00	150.00	138.00	124.00
9-08	332.00	230.00	202.00	188.00	169.00	145.00	133.00	122.00
9-09	274.00	218.00	195.00	186.00	166.00	143.00	132.00	115.00
9-10	225.00	189.00	178.00	161.00	141.00	133.00	111.00	95.00
9-11	270.00	220.00	190.00	174.00	160.00	141.00	127.00	113.00
9-12	270.00	235.00	185.00	169.00	160.00	138.00	128.00	109.00
9-13	250.00	220.00	180.00	172.00	153.00	135.00	120.00	104.00
9-14	255.00	206.00	182.00	166.00	146.00	131.00	120.00	102.00
9-15	238.00	199.00	180.00	160.00	144.00	125.00	111.00	90.00
9-16	241.00	203.00	177.00	156.00	138.00	120.00	111.00	96.00
9-17	227.00	192.00	165.00	152.00	134.00	122.00	111.00	98.00
9-18	213.00	187.00	168.00	149.00	136.00	121.00	115.00	92.00
9-19	294.00	180.00	168.00	145.00	134.00	119.00	107.00	91.00
9-20	266.00	183.00	150.00	143.00	131.00	111.00	106.00	90.00
9-21	258.00	190.00	160.00	138.00	129.00	108.00	104.00	80.00
9-22	237.00	178.00	151.00	133.00	124.00	106.00	102.00	85.00
9-23	228.00	168.00	149.00	135.00	121.00	102.00	100.00	86.00
9-24	213.00	166.00	140.00	131.00	120.00	105.00	100.00	80.00
9-25	201.00	150.00	138.00	132.00	118.00	102.00	96.00	81.00
9-26	191.00	143.00	137.00	128.00	115.00	98.00	94.00	64.00
9-27	182.00	141.00	131.00	125.00	117.00	96.00	92.00	77.00
9-28	173.00	143.00	124.00	123.00	112.00	96.00	88.00	60.00
9-29	166.00	139.00	127.00	119.00	107.00	92.00	86.00	60.00
9-30	160.00	137.00	129.00	119.00	106.00	92.00	85.00	59.00
	MEAN	219.00	195.00	176.00	166.00	146.00	130.00	124.00
	FRSTV=	1.00000E+01	XZTRD=	0.00000E+00	YZERD=	0.00000E+00;		111.00
	NPTS=	365	INCE=	1	LINTYPE=	0	INTEG=	0
	NPTS=	1.00000E+00	1.49280E+01					
	NPTS=	365	INC=	1	LINTYPE=	0	INTEG=	0
	NPTS=	1.00000E+00	1.49280E+01					
	NPTS=	365	INC=	1	LINTYPE=	0	INTEG=	0
	NPTS=	1.00000E+00	1.49260E+01					
	NPTS=	365	INC=	1	LINTYPE=	0	INTEG=	0
		1.00000E+00	1.49280E+01					

UNIVERSITY STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 ROCK CREEK NEAR RED LODGE MT.

DATE PROCESSED=11/23/62

## PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

	DATE	height	.10	.20	.30	.40	.50	.60	.70	.80	.90	LUM
	10-01	153.00	136.00	128.00	113.00	101.00	86.00	81.00	71.00	71.00	58.00	
	10-02	150.00	133.00	121.00	111.00	100.00	86.00	84.00	71.00	71.00	57.00	
	10-03	165.00	132.00	126.00	111.00	96.00	84.00	81.00	70.00	68.00	55.00	
	10-04	155.00	126.00	124.00	109.00	97.00	82.00	76.00	70.00	70.00	54.00	
	10-05	152.00	127.00	115.00	110.00	97.00	82.00	77.00	66.00	66.00	52.00	
	10-06	170.00	124.00	113.00	111.00	91.00	81.00	77.00	68.00	68.00	50.00	
	10-07	159.00	121.00	117.00	108.00	88.00	81.00	75.00	68.00	68.00	51.00	
	10-08	145.00	120.00	114.00	105.00	88.00	81.00	73.00	68.00	68.00	49.00	
	10-09	141.00	120.00	113.00	105.00	90.00	78.00	73.00	69.00	69.00	49.00	
	10-10	137.00	121.00	111.00	103.00	89.00	78.00	72.00	69.00	69.00	49.00	
	10-11	135.00	122.00	111.00	101.00	87.00	76.00	72.00	68.00	68.00	50.00	
	10-12	137.00	117.00	108.00	100.00	86.00	76.00	72.00	67.00	67.00	47.00	
	10-13	131.00	115.00	106.00	100.00	85.00	75.00	71.00	65.00	65.00	49.00	
	10-14	129.00	115.00	106.00	100.00	84.00	75.00	64.00	66.00	66.00	47.00	
	10-15	129.00	117.00	106.00	100.00	81.00	74.00	70.00	66.00	66.00	48.00	
	10-16	123.00	113.00	105.00	96.00	79.00	74.00	69.00	68.00	68.00	49.00	
	10-17	121.00	112.00	100.00	95.00	79.00	70.00	68.00	63.00	63.00	48.00	
	10-18	117.00	111.00	96.00	95.00	80.00	72.00	67.00	66.00	66.00	47.00	
	10-19	111.00	107.00	100.00	92.00	78.00	72.00	66.00	64.00	64.00	49.00	
	10-20	109.00	107.00	102.00	90.00	76.00	71.00	66.00	53.00	53.00	50.00	
	10-21	107.00	105.00	96.00	90.00	77.00	70.00	65.00	52.00	52.00	51.00	
	10-22	107.00	103.00	96.00	86.00	75.00	68.00	65.00	60.00	60.00	51.00	
	10-23	105.00	100.00	92.00	85.00	73.00	69.00	65.00	59.00	59.00	50.00	
	10-24	101.00	98.00	91.00	83.00	72.00	70.00	64.00	59.00	59.00	49.00	
	10-25	103.00	98.00	91.00	83.00	71.00	65.00	53.00	52.00	52.00	50.00	
28		98.00	90.00	86.00	80.00	69.00	64.00	62.00	57.00	57.00	49.00	
	10-26	96.00	92.00	84.00	77.00	65.00	62.00	60.00	57.00	57.00	51.00	
	10-27	101.00	88.00	83.00	77.00	66.00	64.00	62.00	56.00	56.00	46.00	
	10-28	96.00	90.00	83.00	77.00	65.00	62.00	61.00	56.00	56.00	49.00	
	10-29	97.00	87.00	84.00	75.00	67.00	62.00	61.00	57.00	57.00	49.00	
	10-30	96.00	86.00	84.00	75.00	67.00	62.00	61.00	57.00	57.00	49.00	
	10-31	96.00	86.00	84.00	77.00	68.00	64.00	59.00	53.00	53.00	46.00	
	MEAN	124.00	108.00	103.00	95.30	82.70	75.40	70.10	67.20	67.20	50.10	

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 60000000 NEAR THE NEAR RED LODGE, MT.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981

	DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LW
	11-01	44.00	45.00	46.00	47.00	48.00	49.00	50.00	50.00	42.00
	11-02	41.00	42.00	43.00	44.00	45.00	46.00	47.00	47.00	45.00
	11-03	41.00	40.00	39.00	38.00	37.00	36.00	35.00	35.00	46.00
	11-04	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	44.00
	11-05	38.00	38.00	38.00	38.00	38.00	38.00	38.00	38.00	43.00
	11-06	35.00	36.00	37.00	37.00	37.00	37.00	37.00	37.00	44.00
	11-07	30.00	31.00	32.00	33.00	34.00	35.00	36.00	36.00	46.00
	11-08	25.00	26.00	27.00	28.00	29.00	30.00	31.00	31.00	36.00
	11-09	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	32.00
	11-10	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	41.00
	11-11	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	44.00
	11-12	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	46.00
	11-13	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	45.00
	11-14	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	34.00
	11-15	14.00	14.00	14.00	14.00	14.00	14.00	14.00	14.00	32.00
	11-16	91.00	80.00	72.00	64.00	56.00	52.00	50.00	47.00	43.00
	11-17	46.00	46.00	46.00	47.00	49.00	51.00	52.00	52.00	35.00
	11-18	30.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	34.00
	11-19	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	32.00
	11-20	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	25.00
	11-21	77.00	72.00	66.00	62.00	56.00	49.00	44.00	41.00	38.00
	11-22	77.00	72.00	67.00	59.00	54.00	48.00	45.00	42.00	37.00
	11-23	76.00	72.00	66.00	60.00	56.00	48.00	46.00	43.00	36.00
	11-24	76.00	72.00	64.00	62.00	55.00	46.00	46.00	41.00	31.00
	11-25	72.00	69.00	64.00	59.00	54.00	49.00	45.00	41.00	28.00
	11-26	72.00	66.00	62.00	59.00	54.00	49.00	45.00	41.00	38.00
	11-27	72.00	67.00	64.00	58.00	52.00	47.00	44.00	41.00	30.00
	11-28	75.00	67.00	66.00	60.00	52.00	45.00	45.00	40.00	33.00
	11-29	75.00	66.00	62.00	59.00	54.00	47.00	45.00	41.00	36.00
	11-30	75.00	66.00	66.00	65.00	57.00	54.00	47.00	42.00	36.00
	11-31	76.00	66.00	62.00	59.00	54.00	46.00	43.00	41.00	34.00
	MEAN	77.70	70.60	69.40	64.10	56.30	51.40	49.60	46.50	34.76

STATE OF SOUTH DAKOTA  
GEODESICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2095/00 DRAINAGE AREA RDP LIDGE, MT.

PLANNING PLOTS FOR UTILIZATION HYDROGRAPH FOR 39-YEAR PERIOD BETWEEN WATER YEARS 1943 AND 1981  
WATER PERIODS--11/23/82

YEAR	HIGH	LOW	50	70	90	LOW
12-01	74.00	59.00	58.00	49.00	45.00	39.00
12-02	70.00	62.00	55.00	52.00	46.00	42.00
12-03	68.00	63.00	58.00	53.00	46.00	42.00
12-04	70.00	60.00	57.00	55.00	46.00	42.00
12-05	68.00	59.00	56.00	51.00	45.00	40.00
12-06	65.00	58.00	54.00	51.00	44.00	41.00
12-07	65.00	59.00	55.00	52.00	45.00	40.00
12-08	74.00	55.00	54.00	52.00	42.00	39.00
12-09	60.00	56.00	52.00	50.00	40.00	36.00
12-10	61.00	58.00	55.00	51.00	45.00	41.00
12-11	69.00	56.00	55.00	50.00	44.00	40.00
12-12	60.00	54.00	52.00	49.00	45.00	40.00
12-13	60.00	57.00	50.00	48.00	42.00	39.00
12-14	59.00	52.00	49.00	45.00	40.00	35.00
12-15	62.00	54.00	51.00	49.00	44.00	40.00
12-16	58.00	51.00	50.00	49.00	44.00	40.00
12-17	58.00	51.00	49.00	46.00	42.00	38.00
12-18	56.00	50.00	47.00	45.00	42.00	38.00
12-19	55.00	50.00	47.00	44.00	40.00	37.00
12-20	58.00	51.00	47.00	44.00	41.00	37.00
12-21	57.00	51.00	47.00	45.00	42.00	38.00
12-22	67.00	50.00	47.00	46.00	40.00	34.00
12-23	70.00	52.00	47.00	42.00	40.00	36.00
12-24	60.00	50.00	46.00	45.00	40.00	37.00
12-25	55.00	50.00	47.00	45.00	42.00	36.00
30	54.00	49.00	48.00	42.00	41.00	34.00
12-26	59.00	51.00	49.00	46.00	42.00	38.00
12-27	54.00	44.00	42.00	40.00	38.00	32.00
12-28	55.00	49.00	45.00	42.00	40.00	34.00
12-29	51.00	44.00	42.00	40.00	38.00	36.00
12-30	53.00	46.00	44.00	42.00	40.00	34.00
12-31	52.00	44.00	43.00	40.00	35.00	33.00
YEAR	56.10	49.00	47.00	45.80	41.30	35.20
						26.00

## UNITED STATES GEOLOGICAL SURVEY OF INTERIOR

GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE PROCESSED - 11/23/82

BULLWATER CREEK NEAR BRIDGE, MI.

## PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	STATION	000's	HIGH	.10	.20	.30	.40	.50	.60	.70	.80	.90	LW
1	1-01	32.00	32.00	31.00	31.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-02	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-03	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-04	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-05	31.00	31.00	30.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-06	31.00	31.00	30.00	30.00	30.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
	1-07	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-08	32.00	32.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-09	32.00	32.00	31.00	31.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-10	31.00	31.00	31.00	31.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00	26.00
	1-11	31.00	31.00	31.00	30.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00	26.00
	1-12	31.00	31.00	31.00	31.00	30.00	29.00	29.00	27.00	26.00	26.00	26.00	26.00
	1-13	31.00	31.00	31.00	30.00	30.00	29.00	29.00	28.00	28.00	28.00	28.00	28.00
	1-14	31.00	31.00	31.00	31.00	30.00	29.00	29.00	28.00	28.00	28.00	28.00	28.00
	1-15	31.00	31.00	31.00	31.00	30.00	29.00	29.00	28.00	28.00	28.00	28.00	28.00
	1-16	32.00	32.00	31.00	31.00	30.00	29.00	29.00	28.00	28.00	28.00	28.00	28.00
	1-17	31.00	31.00	31.00	30.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00	26.00
	1-18	31.00	31.00	31.00	30.00	30.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
	1-19	31.00	31.00	31.00	30.00	30.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
	1-20	31.00	31.00	30.00	30.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00	26.00
	1-21	31.00	31.00	30.00	30.00	30.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
	1-22	32.00	32.00	31.00	30.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00	26.00
	1-23	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-24	31.00	31.00	31.00	30.00	30.00	27.00	27.00	26.00	26.00	26.00	26.00	26.00
	1-25	31.00	31.00	31.00	31.00	30.00	28.00	28.00	27.00	26.00	26.00	26.00	26.00
	1-26	32.00	32.00	31.00	30.00	30.00	27.00	27.00	27.00	26.00	26.00	26.00	26.00
	1-27	32.00	32.00	32.00	30.00	30.00	29.00	29.00	27.00	26.00	26.00	26.00	26.00
	1-28	31.00	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00	27.00	27.00	27.00
	1-29	31.00	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00	27.00	27.00	27.00
	1-30	31.00	31.00	31.00	31.00	31.00	29.00	29.00	27.00	27.00	27.00	27.00	27.00
	1-31	31.00	31.00	31.00	31.00	31.00	29.00	29.00	27.00	27.00	27.00	27.00	27.00
	MEAN	30.70	30.70	30.70	30.40	30.40	29.00	29.00	27.00	27.00	27.00	27.00	27.00

UNITED STATES DEPARTMENT OF INTERIOR  
GEODLICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00      MULHOLLAND CREEK NEAR BRIDGE, MT.      —

DATE PROCESSED--11/23/82

## PLOTTING POINTS FOR DURMIAN HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	• 16	• 20	• 50	• 70	• 90	LW
2-01	31.00	31.00	31.00	31.00	30.00	28.00	26.00
2-02	32.00	32.00	31.00	31.00	30.00	28.00	26.00
2-03	32.00	32.00	31.00	31.00	30.00	28.00	26.00
2-04	32.00	32.00	31.00	31.00	30.00	27.00	27.00
2-05	31.00	31.00	31.00	31.00	30.00	27.00	27.00
2-06	31.00	31.00	31.00	31.00	30.00	26.00	27.00
2-07	31.00	31.00	31.00	31.00	30.00	27.00	27.00
2-08	31.00	31.00	31.00	31.00	30.00	27.00	27.00
2-09	31.00	31.00	31.00	31.00	30.00	28.00	27.00
2-10	31.00	31.00	31.00	31.00	29.00	27.00	27.00
2-11	31.00	31.00	30.00	30.00	29.00	28.00	27.00
2-12	31.00	31.00	30.00	30.00	30.00	28.00	27.00
2-13	31.00	31.00	30.00	30.00	30.00	28.00	27.00
2-14	32.00	32.00	30.00	30.00	30.00	27.00	27.00
2-15	32.00	32.00	31.00	31.00	30.00	27.00	27.00
2-16	32.00	32.00	31.00	31.00	30.00	27.00	27.00
2-17	32.00	32.00	31.00	31.00	30.00	27.00	27.00
2-18	31.00	31.00	31.00	31.00	30.00	28.00	27.00
2-19	31.00	31.00	31.00	30.00	30.00	29.00	27.00
2-20	31.00	31.00	31.00	30.00	30.00	28.00	27.00
2-21	31.00	31.00	30.00	30.00	30.00	24.00	27.00
2-22	31.00	31.00	31.00	31.00	30.00	26.00	27.00
2-23	31.00	31.00	30.00	30.00	29.00	25.00	27.00
2-24	31.00	31.00	30.00	30.00	24.00	23.00	27.00
2-25	31.00	31.00	31.00	30.00	24.00	23.00	27.00
2-26	31.00	31.00	30.00	30.00	29.00	29.00	27.00
2-27	31.00	31.00	31.00	30.00	29.00	27.00	27.00
2-28	31.00	31.00	31.00	30.00	28.00	26.00	27.00
MEAN	31.10	31.10	30.50	30.20	24.90	27.70	26.90

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 BLUEWATER CREEK NEAR BRIDGE, MI.

DATE PREPARED--11/23/82

PLOTTING FORMS FOR FORMATION HYDROGRAPH FILE 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	DATE	HIGH	.10	.20	.50	.70	.80	.90	LW
1	3-01	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
1	3-02	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
1	3-03	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
1	3-04	32.00	32.00	31.00	31.00	28.00	28.00	27.00	27.00
1	3-05	31.00	31.00	31.00	30.00	28.00	28.00	27.00	27.00
1	3-06	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-07	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-08	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-09	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-10	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-11	31.00	31.00	30.00	30.00	29.00	29.00	27.00	27.00
1	3-12	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-13	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-14	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-15	31.00	31.00	30.00	30.00	29.00	28.00	27.00	27.00
1	3-16	31.00	31.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-17	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-18	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-19	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-20	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-21	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-22	32.00	32.00	31.00	30.00	29.00	28.00	27.00	27.00
1	3-23	32.00	32.00	31.00	30.00	29.00	28.00	26.00	26.00
1	3-24	32.00	32.00	31.00	30.00	29.00	28.00	26.00	26.00
1	3-25	32.00	32.00	31.00	30.00	29.00	28.00	26.00	26.00
1	3-26	32.00	32.00	32.00	31.00	29.00	28.00	26.00	26.00
1	3-27	32.00	32.00	31.00	31.00	29.00	28.00	26.00	26.00
1	3-28	32.00	32.00	31.00	31.00	28.00	28.00	26.00	26.00
1	3-29	32.00	32.00	31.00	31.00	28.00	28.00	26.00	26.00
1	3-30	34.00	34.00	32.00	31.00	28.00	28.00	26.00	26.00
1	3-31	32.00	32.00	31.00	30.00	28.00	28.00	26.00	26.00
1	MEAN	31.10	31.10	31.00	30.10	28.00	27.50	27.30	27.30

GEOLoGICAL SURVEY - WATER RESOURCES DIVISION  
PLATE 111 - 1962 AND 1970

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970  
DATE PLACED ON--11/23/82

	DATE	100	20	50	70	90	90	LUR.
	4-01	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-02	32.00	32.00	31.00	30.00	29.00	28.00	27.00
	4-03	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-04	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-05	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-06	32.00	32.00	31.00	30.00	28.00	28.00	26.00
	4-07	32.00	32.00	31.00	30.00	28.00	28.00	26.00
	4-08	32.00	32.00	31.00	30.00	28.00	27.00	26.00
	4-09	32.00	32.00	31.00	30.00	28.00	27.00	26.00
	4-10	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-11	32.00	32.00	32.00	30.00	28.00	26.00	26.00
	4-12	32.00	32.00	32.00	31.00	28.00	28.00	26.00
	4-13	32.00	32.00	31.00	30.00	28.00	28.00	26.00
	4-14	32.00	32.00	31.00	30.00	28.00	28.00	26.00
	4-15	32.00	32.00	31.00	30.00	28.00	27.00	26.00
	4-16	32.00	32.00	30.00	30.00	29.00	28.00	26.00
	4-17	32.00	32.00	30.00	30.00	28.00	28.00	26.00
	4-18	32.00	32.00	30.00	30.00	29.00	28.00	26.00
	4-19	32.00	32.00	30.00	30.00	29.00	28.00	26.00
	4-20	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-21	32.00	32.00	32.00	30.00	30.00	28.00	26.00
	4-22	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-23	32.00	32.00	31.00	30.00	28.00	28.00	26.00
	4-24	32.00	32.00	31.00	30.00	29.00	28.00	26.00
	4-25	32.00	32.00	31.00	31.00	30.00	28.00	26.00
	4-26	76.00	32.00	32.00	30.00	28.00	26.00	26.00
	4-27	35.00	32.00	31.00	30.00	29.00	28.00	28.00
	4-28	33.00	33.00	32.00	30.00	29.00	28.00	26.00
	4-29	33.00	33.00	31.00	30.00	29.00	28.00	27.00
	4-30	33.00	33.00	31.00	30.00	29.00	28.00	27.00
	MEAN	31.80	31.00	30.40	29.00	24.50	26.20	28.00

U.S. DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATA SHEET NO. 111-25582

STATION 06/2074/00 DURATIONS FOR DURATION HYDROGRAPH FOR

4-YEAR P-100 RAINFALLS, WATER YEARS 1962 AND 1970

	WATER	1.	20	50	70	90	LIN
1	5-11	33.00	32.00	31.00	29.00	28.00	28.00
1	5-12	33.00	32.00	32.00	29.00	28.00	28.00
1	5-13	33.00	32.00	32.00	28.00	28.00	28.00
1	5-14	33.00	32.00	32.00	29.00	28.00	28.00
1	5-15	34.00	34.00	33.00	31.00	29.00	27.00
1	5-16	34.00	34.00	34.00	30.00	29.00	27.00
1	5-17	34.00	34.00	32.00	30.00	28.00	27.00
1	5-18	34.00	34.00	32.00	31.00	29.00	27.00
1	5-19	34.00	34.00	32.00	30.00	28.00	26.00
1	5-20	34.00	34.00	32.00	30.00	28.00	26.00
1	5-21	34.00	34.00	31.00	29.00	28.00	26.00
1	5-22	33.00	33.00	30.00	28.00	27.00	26.00
1	5-23	33.00	33.00	30.00	27.00	26.00	26.00
1	5-24	32.00	32.00	29.00	27.00	26.00	26.00
1	5-25	32.00	32.00	29.00	27.00	26.00	26.00
1	5-26	32.00	32.00	30.00	29.00	27.00	26.00
1	5-27	31.00	31.00	29.00	28.00	26.00	26.00
1	5-28	31.00	31.00	29.00	28.00	26.00	25.00
1	5-29	31.00	31.00	28.00	27.00	25.00	25.00
1	5-30	31.00	31.00	28.00	28.00	25.00	25.00
1	5-31	31.00	31.00	29.00	28.00	27.00	25.00
1	MEAN	33.10	33.10	30.20	28.90	27.30	26.90

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATA SHEET - PLUTING POINTS FOR DURATION HYDROGRAPH FOR

DATE PREPARED--11/25/82

PLUTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	DATE	HIGH	•10	•20	•30	•50	•70	•80	•90	LOW
-	6-01	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
-	6-02	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
-	6-03	30.00	30.00	29.00	28.00	28.00	26.00	25.00	24.00	24.00
-	6-04	30.00	30.00	28.00	28.00	28.00	26.00	26.00	24.00	24.00
-	6-05	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
-	6-06	30.00	30.00	28.00	28.00	27.00	27.00	25.00	24.00	24.00
-	6-07	30.00	30.00	28.00	28.00	29.00	26.00	24.00	24.00	24.00
-	6-08	30.00	30.00	28.00	28.00	28.00	27.00	26.00	24.00	24.00
-	6-09	30.00	30.00	36.00	36.00	36.00	26.00	26.00	24.00	24.00
-	6-10	32.00	32.00	30.00	30.00	30.00	27.00	27.00	24.00	24.00
-	6-11	33.00	33.00	32.00	30.00	30.00	27.00	27.00	24.00	24.00
-	6-12	32.00	32.00	31.00	30.00	30.00	27.00	27.00	25.00	25.00
-	6-13	31.00	31.00	31.00	30.00	30.00	27.00	26.00	26.00	26.00
-	6-14	37.00	37.00	31.00	30.00	30.00	27.00	26.00	26.00	26.00
-	6-15	32.00	32.00	31.00	30.00	30.00	23.00	27.00	26.00	26.00
-	6-16	33.00	33.00	31.00	31.00	31.00	30.00	27.00	26.00	26.00
-	6-17	31.00	31.00	31.00	30.00	30.00	28.00	26.00	26.00	26.00
-	6-18	31.00	31.00	31.00	30.00	30.00	27.00	26.00	25.00	25.00
-	6-19	35.00	35.00	31.00	30.00	30.00	27.00	26.00	25.00	25.00
-	6-20	31.00	31.00	31.00	30.00	30.00	27.00	26.00	25.00	25.00
-	6-21	31.00	31.00	30.00	30.00	30.00	28.00	26.00	26.00	25.00
-	6-22	31.00	31.00	30.00	30.00	30.00	27.00	26.00	26.00	26.00
-	6-23	31.00	31.00	30.00	30.00	30.00	27.00	26.00	25.00	25.00
-	6-24	31.00	31.00	31.00	31.00	31.00	27.00	26.00	25.00	25.00
-	6-25	44.00	31.00	31.00	31.00	30.00	26.00	26.00	24.00	24.00
-	6-26	64.00	64.00	31.00	30.00	30.00	26.00	25.00	24.00	24.00
-	6-27	36.00	36.00	31.00	30.00	30.00	26.00	25.00	24.00	24.00
-	6-28	34.00	34.00	31.00	30.00	30.00	25.00	25.00	24.00	24.00
-	6-29	84.00	84.00	34.00	31.00	31.00	24.00	25.00	25.00	25.00
-	6-30	34.00	34.00	30.00	30.00	30.00	26.00	25.00	24.00	24.00
MEAN		31.50	31.10	30.80	26.90	26.30	26.20	25.90	25.90	

STATE OF CALIFORNIA  
DEPARTMENT OF WATER RESOURCES  
GEODRAMATIC SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 PLOTTING POINTS USED IN HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970  
DATE PRINTED SEPTEMBER 11/25/82

	DAY	MONTH	10	20	50	70	90	100
	7-01	34.00	34.00	31.00	30.00	25.00	25.00	25.00
	7-02	33.00	33.00	31.00	30.00	25.00	24.00	23.00
	7-03	33.00	33.00	31.00	30.00	25.00	24.00	24.00
	7-04	35.00	33.00	31.00	29.00	26.00	25.00	25.00
	7-05	32.00	32.00	31.00	29.00	26.00	25.00	24.00
	7-06	32.00	32.00	31.00	29.00	26.00	25.00	23.00
	7-07	40.00	40.00	31.00	29.00	26.00	25.00	25.00
	7-08	34.00	34.00	31.00	30.00	26.00	25.00	24.00
	7-09	35.00	35.00	30.00	30.00	27.00	25.00	24.00
	7-10	32.00	32.00	30.00	30.00	26.00	25.00	24.00
	7-11	32.00	32.00	30.00	30.00	27.00	24.00	24.00
	7-12	32.00	32.00	30.00	28.00	26.00	24.00	24.00
	7-13	32.00	32.00	30.00	28.00	26.00	24.00	23.00
	7-14	32.00	32.00	30.00	28.00	26.00	24.00	23.00
	7-15	31.00	31.00	29.00	29.00	26.00	24.00	23.00
	7-16	32.00	32.00	29.00	29.00	26.00	24.00	24.00
	7-17	31.00	31.00	29.00	28.00	26.00	24.00	22.00
	7-18	30.00	30.00	30.00	27.00	26.00	24.00	22.00
	7-19	30.00	30.00	30.00	26.00	26.00	24.00	22.00
	7-20	30.00	30.00	29.00	26.00	25.00	24.00	22.00
	7-21	30.00	30.00	29.00	26.00	24.00	23.00	23.00
	7-22	30.00	30.00	29.00	26.00	24.00	23.00	23.00
	7-23	30.00	30.00	29.00	27.00	26.00	24.00	23.00
	7-24	29.00	29.00	29.00	27.00	25.00	23.00	22.00
	7-25	33.00	33.00	29.00	26.00	26.00	24.00	23.00
	7-26	30.00	30.00	28.00	26.00	-	24.00	24.00
	7-27	30.00	30.00	28.00	28.00	25.00	24.00	24.00
	7-28	30.00	30.00	28.00	26.00	25.00	24.00	24.00
	7-29	29.00	29.00	26.00	26.00	25.00	24.00	24.00
	7-30	29.00	29.00	29.00	26.00	25.00	24.00	24.00
	7-31	29.00	29.00	29.00	26.00	24.00	23.00	23.00
	MEAN	31.50	31.50	29.70	27.60	25.60	24.40	24.10

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

GRANITE JOURNAL, MICHIGAN RIVER, HEDGE, MI.

DATE PROCESSED--11/23/62

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
	8-01	30.00	30.00	29.00	28.00	26.00	24.00	24.00	24.00	24.00
	8-02	30.00	30.00	29.00	28.00	26.00	25.00	24.00	24.00	24.00
	8-03	29.00	29.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-04	28.00	28.00	27.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-05	27.00	27.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00
	8-06	28.00	28.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-07	28.00	28.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-08	28.00	28.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00
	8-09	28.00	28.00	27.00	27.00	26.00	24.00	24.00	24.00	24.00
	8-10	28.00	28.00	28.00	28.00	26.00	25.00	24.00	24.00	24.00
	8-11	28.00	28.00	28.00	28.00	26.00	25.00	24.00	24.00	24.00
	8-12	28.00	28.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-13	28.00	28.00	27.00	27.00	26.00	25.00	25.00	25.00	25.00
	8-14	28.00	28.00	27.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-15	28.00	28.00	27.00	27.00	25.00	25.00	24.00	24.00	24.00
	8-16	28.00	28.00	28.00	27.00	25.00	25.00	25.00	24.00	24.00
	8-17	28.00	28.00	27.00	27.00	25.00	24.00	24.00	24.00	24.00
	8-18	28.00	28.00	27.00	27.00	26.00	25.00	25.00	24.00	24.00
	8-19	28.00	28.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-20	28.00	28.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00
38										
	8-21	28.00	28.00	27.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-22	28.00	28.00	28.00	27.00	26.00	25.00	24.00	24.00	24.00
	8-23	30.00	30.00	26.00	27.00	26.00	25.00	25.00	24.00	24.00
	8-24	29.00	29.00	27.00	27.00	26.00	25.00	25.00	24.00	24.00
	8-25	29.00	29.00	28.00	27.00	26.00	25.00	25.00	24.00	24.00
	8-26	29.00	29.00	28.00	28.00	26.00	25.00	25.00	24.00	24.00
	8-27	29.00	29.00	28.00	28.00	26.00	25.00	24.00	24.00	24.00
	8-28	29.00	29.00	28.00	28.00	26.00	25.00	24.00	24.00	24.00
	8-29	30.00	30.00	28.00	28.00	25.00	25.00	25.00	25.00	25.00
	8-30	30.00	30.00	28.00	28.00	26.00	25.00	25.00	25.00	25.00
	8-31	30.00	30.00	28.00	28.00	26.00	25.00	25.00	25.00	25.00
	MEAN	27.90	27.90	27.80	27.00	25.50	24.90	24.70	24.70	

UNITED STATES DEPARTMENT OF INTERIOR  
GEODAETHICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970  
STATION 06/2078/00 BLUEWATER CREEK NEAR BRIDGE, MI. DATE PROCESSED--11/23/82

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LWS
9-01	31.00	31.00	29.00	28.00	26.00	25.00	25.00	24.00	24.00
9-02	31.00	31.00	29.00	29.00	25.00	25.00	25.00	24.00	24.00
9-03	59.00	59.00	32.00	30.00	27.00	25.00	25.00	24.00	24.00
9-04	32.00	32.00	32.00	29.00	27.00	25.00	25.00	24.00	24.00
9-05	32.00	32.00	32.00	29.00	28.00	25.00	25.00	25.00	25.00
9-06	31.00	31.00	30.00	29.00	27.00	25.00	25.00	25.00	25.00
9-07	31.00	31.00	29.00	29.00	28.00	26.00	26.00	25.00	25.00
9-08	32.00	32.00	30.00	29.00	28.00	26.00	26.00	25.00	25.00
9-09	32.00	32.00	30.00	29.00	27.00	25.00	25.00	24.00	24.00
9-10	31.00	31.00	30.00	29.00	28.00	26.00	26.00	24.00	24.00
9-11	32.00	32.00	29.00	29.00	28.00	26.00	26.00	25.00	25.00
9-12	32.00	32.00	30.00	29.00	28.00	26.00	26.00	25.00	25.00
9-13	32.00	32.00	31.00	29.00	27.00	26.00	26.00	25.00	25.00
9-14	31.00	31.00	29.00	28.00	27.00	26.00	26.00	25.00	25.00
9-15	31.00	31.00	29.00	28.00	27.00	26.00	26.00	25.00	25.00
9-16	30.00	30.00	30.00	28.00	26.00	26.00	26.00	25.00	25.00
9-17	30.00	30.00	30.00	28.00	26.00	26.00	26.00	26.00	26.00
9-18	30.00	30.00	29.00	28.00	26.00	27.00	27.00	26.00	26.00
9-19	30.00	30.00	29.00	29.00	26.00	27.00	27.00	26.00	26.00
9-20	30.00	30.00	30.00	29.00	26.00	27.00	27.00	26.00	26.00
9-21	31.00	31.00	31.00	30.00	26.00	27.00	27.00	26.00	26.00
9-22	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
9-23	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
9-24	32.00	32.00	30.00	30.00	29.00	27.00	27.00	26.00	26.00
9-25	32.00	32.00	30.00	29.00	29.00	27.00	27.00	26.00	26.00
9-26	32.00	32.00	30.00	30.00	28.00	27.00	27.00	26.00	26.00
9-27	32.00	32.00	30.00	30.00	28.00	27.00	27.00	26.00	26.00
9-28	32.00	32.00	30.00	29.00	28.00	26.00	26.00	26.00	26.00
9-29	32.00	32.00	30.00	29.00	28.00	27.00	26.00	25.00	25.00
9-30	32.00	32.00	30.00	29.00	28.00	27.00	26.00	26.00	26.00
MEAN	31.40	31.40	29.50	29.00	27.50	26.80	26.30	25.80	25.80
FIRSTV=	1.00000E+01	XZERO=	0.00000E+00	YZERO=	0.00000E+00;				
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=			
NPTS=	1.00000E+00	1.49280E+01					0;		
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=	0;		
NPTS=	1.00000E+00	1.49280E+01							
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=	0;		
NPTS=	1.00000E+00	1.49280E+01							
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=	0;		
NPTS=	1.00000E+00	1.49280E+01							
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=	0;		
NPTS=	1.00000E+00	1.49280E+01							
NPTS=	365	INC=	1	LINETYPE=	0	INEQ=	0;		
NPTS=	1.00000E+00	1.49280E+01							

U.S. DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2078/00 BLUENWATER CREEK NEAR BRIDGE, MI. DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

DATE	HIGH	.10	.20	.30	.50	.70	.90	.90	LIN
10-01	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00	26.00
10-02	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00	26.00
10-03	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00	26.00
10-04	30.00	30.00	29.00	29.00	28.00	26.00	26.00	26.00	26.00
10-05	29.00	29.00	29.00	29.00	28.00	26.00	26.00	26.00	26.00
10-06	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-07	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-08	29.00	29.00	29.00	29.00	28.00	27.00	27.00	27.00	27.00
10-09	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-10	29.00	29.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-11	29.00	29.00	29.00	29.00	27.00	27.00	27.00	26.00	26.00
10-12	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-13	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-14	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-15	30.00	30.00	29.00	29.00	28.00	27.00	26.00	26.00	26.00
10-16	30.00	30.00	30.00	29.00	28.00	27.00	27.00	26.00	26.00
10-17	30.00	30.00	30.00	29.00	28.00	27.00	27.00	26.00	26.00
10-18	30.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00	27.00
10-19	30.00	30.00	30.00	29.00	28.00	27.00	27.00	27.00	27.00
10-20	31.00	31.00	30.00	30.00	29.00	28.00	27.00	26.00	26.00
40	31.00	31.00	30.00	29.00	28.00	27.00	27.00	26.00	26.00
10-21	31.00	31.00	30.00	29.00	28.00	27.00	27.00	26.00	26.00
10-22	32.00	32.00	31.00	29.00	28.00	27.00	27.00	26.00	26.00
10-23	32.00	32.00	31.00	29.00	28.00	27.00	27.00	26.00	26.00
10-24	32.00	32.00	31.00	29.00	28.00	27.00	26.00	26.00	26.00
10-25	32.00	32.00	31.00	29.00	28.00	27.00	27.00	26.00	26.00
10-26	32.00	32.00	31.00	29.00	28.00	27.00	27.00	26.00	26.00
10-27	32.00	32.00	31.00	29.00	28.00	27.00	27.00	26.00	26.00
10-28	32.00	32.00	31.00	30.00	28.00	27.00	27.00	26.00	26.00
10-29	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
10-30	32.00	32.00	31.00	30.00	28.00	27.00	27.00	26.00	26.00
10-31	32.00	32.00	31.00	30.00	29.00	27.00	27.00	25.00	25.00
MEAN	30.30	30.30	29.10	28.90	27.50	26.50	26.50		

UNITED STATES DEPARTMENT OF INTERIOR  
U.S. GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

DATE 06/2078/00 BLUETWATER CREEK NEAR BRIDGER, MT.

DATE PRELIMINARY - 11/23/82

PLUTO, POINTS FOR DURATION HYDROGRAPH FOR 4-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	DATE	HIGH	•10	•20	•30	•50	•70	•80	•90	LOW
	11-01	32.00	32.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
	11-02	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
	11-03	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
	11-04	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
	11-05	31.00	31.00	31.00	31.00	28.00	27.00	27.00	26.00	26.00
	11-06	31.00	31.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
	11-07	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
	11-08	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
	11-09	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	26.00
	11-10	32.00	32.00	31.00	30.00	29.00	27.00	27.00	26.00	25.00
	11-11	32.00	32.00	32.00	29.00	29.00	27.00	27.00	25.00	25.00
	11-12	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
	11-13	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
	11-14	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
	11-15	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
	11-16	32.00	32.00	32.00	30.00	29.00	27.00	27.00	25.00	25.00
	11-17	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-18	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-19	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-20	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-21	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-22	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-23	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-24	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-25	32.00	32.00	32.00	30.00	28.00	27.00	27.00	25.00	25.00
	11-26	32.00	32.00	31.00	31.00	27.00	27.00	27.00	26.00	26.00
	11-27	32.00	32.00	31.00	31.00	26.00	27.00	27.00	26.00	26.00
	11-28	32.00	32.00	31.00	31.00	27.00	27.00	27.00	26.00	26.00
	11-29	32.00	32.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
	11-30	32.00	32.00	31.00	31.00	26.00	27.00	27.00	27.00	27.00
	MEAN	31.80	31.80	31.40	30.20	28.50	27.00	26.50	25.70	25.70

UNITED STATES DEPARTMENT OF INTERIOR  
STATEMENT SURVEY - WATER RESOURCES DIVISION

STATION 06-2078/00 RIVER 47, NEAR CEDAR CITY, MI.

DATE PRELIMINARY--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 9-YEAR PERIOD BETWEEN WATER YEARS 1962 AND 1970

	DATE	HIGH	• 10	• 20	• 30	• 50	• 70	• 90	• 100	LOW
1	12-01	32.00	32.00	31.00	31.00	28.00	27.00	27.00	27.00	26.00
1	12-02	32.00	32.00	31.00	31.00	28.00	27.00	27.00	27.00	27.00
1	12-03	31.00	31.00	31.00	31.00	28.00	27.00	27.00	27.00	27.00
1	12-04	31.00	31.00	31.00	31.00	28.00	27.00	27.00	27.00	27.00
1	12-05	32.00	31.00	31.00	31.00	28.00	27.00	27.00	27.00	27.00
1	12-06	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	26.00
1	12-07	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	26.00
1	12-08	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-09	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-10	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-11	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-12	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00	27.00
1	12-13	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00	27.00
1	12-14	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00	27.00
1	12-15	31.00	31.00	31.00	30.00	27.00	27.00	27.00	27.00	27.00
42	12-16	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-17	31.00	31.00	31.00	30.00	28.00	27.00	27.00	27.00	27.00
1	12-18	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
1	12-19	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
1	12-20	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
1	12-21	32.00	32.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
1	12-22	31.00	31.00	31.00	30.00	28.00	27.00	26.00	26.00	26.00
1	12-23	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-24	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-25	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-26	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-27	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-28	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-29	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-30	32.00	32.00	30.00	30.00	29.00	27.00	26.00	26.00	26.00
1	12-31	32.00	32.00	31.00	30.00	29.00	27.00	26.00	26.00	26.00
1	MEAN	31.50	30.90	30.20	27.70	27.30	26.60	26.60	26.60	26.60

UNITED STATES DEPARTMENT OF INTERIOR  
U.S. GEOLOGICAL SURVEY - WATER DATA SOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, SD.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	+1C	+20	+30	+50	+70	+90	+90	LIN
1-01	24.00	21.00	20.00	17.00	14.00	12.00	10.00	9.00	5.00
1-02	24.00	22.00	20.00	17.00	14.00	12.00	9.50	9.00	5.00
1-03	24.00	22.00	19.00	17.00	14.00	11.00	10.00	8.10	4.00
1-04	24.00	21.00	20.00	18.00	14.00	12.00	11.00	10.00	5.00
1-05	24.00	21.00	20.00	19.00	15.00	12.00	11.00	10.00	5.00
1-06	24.00	20.00	20.00	19.00	14.00	11.00	10.00	9.20	4.00
1-07	24.00	22.00	20.00	19.00	14.00	12.00	10.00	9.00	6.00
1-08	26.00	24.00	17.00	18.00	18.00	15.00	12.00	10.00	5.00
1-09	26.00	24.00	17.00	17.00	15.00	12.00	10.00	9.00	4.00
1-10	24.00	23.00	19.00	18.00	15.00	12.00	11.00	10.00	5.00
1-11	29.00	23.00	19.00	18.00	15.00	12.00	10.00	9.00	5.00
1-12	27.00	21.00	19.00	18.00	15.00	12.00	10.00	9.00	5.00
1-13	26.00	23.00	18.00	17.00	15.00	12.00	10.00	9.00	5.00
1-14	27.00	23.00	20.00	17.00	13.00	10.00	9.00	8.00	5.00
1-15	27.00	21.00	21.00	15.00	13.00	11.00	10.00	9.00	5.00
1-16	27.00	21.00	17.00	15.00	12.00	9.00	10.00	9.00	4.00
1-17	27.00	20.00	17.00	15.00	12.00	10.00	13.00	9.50	4.00
1-18	27.00	20.00	16.00	15.00	12.00	10.00	11.00	9.00	4.00
1-19	27.00	22.00	15.00	14.00	12.00	10.00	11.00	9.00	4.00
1-20	27.00	22.00	16.00	14.00	12.00	10.00	11.00	9.00	4.00
1-21	28.00	26.00	16.00	15.00	12.00	10.00	10.00	9.00	4.00
1-22	29.00	23.00	17.00	15.00	12.00	9.00	10.00	9.00	4.00
1-23	29.00	22.00	17.00	14.00	11.00	9.00	10.00	9.00	5.00
1-24	29.00	26.00	16.00	14.00	11.00	9.00	10.00	9.00	5.00
1-25	30.00	24.00	16.00	14.00	11.00	9.00	10.00	9.00	5.00
1-26	30.00	17.00	15.00	13.00	11.00	10.00	10.00	9.00	3.50
1-27	27.00	16.00	15.00	13.00	12.00	10.00	10.00	9.50	4.50
1-28	25.00	16.00	15.00	13.00	12.00	10.00	10.00	9.00	4.00
1-29	25.00	17.00	15.00	13.00	12.00	10.00	10.00	9.00	4.50
1-30	25.00	16.00	15.00	13.00	12.00	10.00	10.00	9.00	4.00
1-31	25.00	17.00	15.00	14.00	12.00	10.00	10.00	9.00	4.00
MEAN	25.50	18.60	16.70	15.50	14.70	13.30	12.30	11.30	9.74

UNIVERSITY STATION OF THE STATE OF FLORIDA  
GEODRICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE ATLVILLE, FL.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

WATER	10	20	30	50	70	80	90	100
2-01	26.00	16.00	15.00	14.00	11.00	10.00	9.00	8.00
2-02	29.00	19.00	16.00	13.00	12.00	10.00	10.00	8.00
2-03	35.00	28.00	16.00	12.00	11.00	10.00	10.00	9.00
2-04	50.00	25.00	16.00	14.00	12.00	10.00	9.80	8.00
2-05	35.00	23.00	16.00	13.00	12.00	10.00	9.50	8.20
2-06	30.00	21.00	15.00	13.00	11.00	10.00	10.00	9.00
2-07	21.00	20.00	15.00	14.00	11.00	10.00	9.00	9.00
2-08	21.00	19.00	16.00	13.00	11.00	10.00	9.00	8.00
2-09	21.00	19.00	16.00	14.00	11.00	10.00	9.00	8.00
2-10	22.00	20.00	16.00	14.00	11.00	10.00	9.60	8.00
2-11	24.00	16.00	14.00	13.00	10.00	10.00	9.00	7.00
2-12	25.00	17.00	15.00	12.00	11.00	10.00	9.00	7.00
2-13	26.00	16.00	14.00	12.00	10.00	9.80	9.00	7.00
2-14	26.00	16.00	12.00	12.00	10.00	9.00	8.90	7.00
2-15	27.00	16.00	12.00	12.00	10.00	9.00	8.90	7.00
2-16	26.00	16.00	14.00	12.00	10.00	9.00	8.00	7.00
2-17	26.00	16.00	14.00	12.00	11.00	9.50	8.00	7.00
2-18	25.00	18.00	15.00	12.00	11.00	8.50	8.00	6.00
2-19	26.00	23.00	15.00	13.00	11.00	9.00	8.00	6.00
2-20	38.00	20.00	15.00	15.00	12.00	10.00	9.00	6.00
2-21	28.00	17.00	15.00	14.00	11.00	—	9.00	6.50
2-22	21.00	18.00	15.00	14.00	12.00	10.00	8.00	6.00
2-23	19.00	17.00	15.00	14.00	12.00	10.00	8.00	6.00
2-24	18.00	17.00	15.00	14.00	11.00	10.00	9.00	6.00
2-25	23.00	16.00	15.00	14.00	12.00	10.00	9.00	6.00
2-26	27.00	15.00	14.00	13.00	12.00	10.00	10.00	5.00
2-27	22.00	15.00	14.00	13.00	11.00	10.00	10.00	5.00
2-28	14.00	14.00	14.00	13.00	12.00	9.00	9.00	3.50
MEAN	22.30	16.60	14.80	13.80	11.00	10.00	9.74	6.64

UNITED STATES GEOLOGICAL SURVEY OF INVESTIGATION  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

ATLANTA, GA., S/N. 5/10. S/N. 5/10.

SATELLITE CHECK ACTIVE ATLANTA, GA.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

	DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
1	5-01	19.00	15.00	13.00	12.00	11.00	9.00	8.00	6.50	3.50
1	5-02	16.00	15.00	13.00	12.00	10.00	8.00	7.00	6.00	2.50
1	5-03	16.00	15.00	12.00	11.00	10.00	7.50	6.50	5.00	2.00
1	5-04	17.00	16.00	15.00	11.00	10.00	6.00	7.00	6.00	2.00
1	5-05	19.00	16.00	14.00	11.00	10.00	8.00	6.00	5.00	2.00
1	5-06	18.00	17.00	14.00	11.00	10.00	9.00	8.00	6.00	2.50
1	5-07	17.00	15.00	12.00	10.00	10.00	8.00	6.00	6.00	3.50
1	5-08	17.00	14.00	13.00	11.00	11.00	9.00	8.00	6.00	4.50
1	5-09	14.00	13.00	12.00	11.00	11.00	8.50	6.00	6.00	5.50
1	5-10	20.00	13.00	12.00	11.00	10.00	8.00	7.00	6.00	5.00
1	5-11	23.00	14.00	13.00	11.00	9.00	7.50	7.00	6.00	4.50
1	5-12	16.00	14.00	12.00	11.00	10.00	8.00	7.00	6.00	4.50
1	5-13	16.00	14.00	13.00	10.00	9.00	8.00	7.00	6.00	6.00
1	5-14	17.00	15.00	12.00	10.00	9.00	8.00	7.00	6.00	5.50
1	5-15	16.00	14.00	12.00	11.00	11.00	8.00	7.00	6.00	5.00
1	5-16	18.00	15.00	13.00	12.00	10.00	8.00	6.00	6.00	6.00
1	5-17	16.00	16.00	13.00	12.00	9.00	8.00	7.00	7.00	6.00
1	5-18	19.00	15.00	13.00	12.00	9.00	8.00	7.00	6.00	6.00
1	5-19	17.00	14.00	12.00	12.00	10.00	8.00	7.00	7.00	6.00
1	5-20	16.00	13.00	12.00	12.00	10.00	8.00	7.00	7.00	6.00
1	5-21	16.00	15.00	13.00	12.00	10.00	8.50	8.00	6.00	6.00
1	5-22	20.00	16.00	14.00	13.00	12.00	9.00	8.00	6.00	4.60
1	5-23	24.00	17.00	15.00	13.00	12.00	8.00	7.50	7.00	5.50
1	5-24	30.00	23.00	15.00	12.00	11.00	9.00	7.00	7.00	6.50
1	5-25	40.00	25.00	16.00	13.00	12.00	9.00	8.00	7.00	6.00
1	5-26	50.00	28.00	15.00	14.00	12.00	9.00	8.50	7.00	5.20
1	5-27	60.00	30.00	15.00	14.00	12.00	10.00	9.00	7.00	6.00
1	5-28	50.00	25.00	17.00	14.00	12.00	10.00	9.30	7.00	6.50
1	5-29	35.00	22.00	16.00	14.00	12.00	11.00	9.00	7.50	7.00
1	5-30	26.00	19.00	16.00	14.00	12.00	10.00	9.50	8.00	7.50
1	5-31	32.00	20.00	17.00	15.00	12.00	11.00	9.20	8.00	7.50
1	MEAN	18.50	14.50	13.20	11.80	11.10	9.52	8.90	7.70	5.74

UNITED STATES GEOLOGICAL SURVEY - WATER RESOURCES DIVISION  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00

WEIGHTED DRAFT AVERAGE 46.11 FT.

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

	DAF	HIGH	.16	.20	.30	.50	.70	.80	.90	LJN
4-0-1		56.00	25.00	17.00	16.00	14.00	11.00	9.80	8.00	7.00
4-0-2		39.00	21.00	18.00	16.00	12.00	10.00	9.00	8.60	7.00
4-0-3		28.00	22.00	17.00	16.00	12.00	9.80	9.50	8.50	7.00
4-0-4		24.00	19.00	16.00	15.00	12.00	11.00	9.80	9.00	6.00
4-0-5		22.00	20.00	17.00	16.00	13.00	11.00	10.00	9.00	6.00
4-0-6		25.00	22.00	16.00	17.00	13.00	11.00	10.00	8.50	7.00
4-0-7		27.00	24.00	16.00	16.00	13.00	11.00	9.60	9.00	7.50
4-0-8		27.00	24.00	16.00	15.00	12.00	11.00	10.00	8.80	6.50
4-0-9		23.00	22.00	19.00	14.00	13.00	11.00	10.00	8.80	7.00
4-1-0		37.00	22.00	20.00	15.00	14.00	12.00	10.00	9.00	7.00
4-1-1		40.00	21.00	18.00	15.00	14.00	11.00	10.00	9.00	7.00
4-1-2		29.00	21.00	17.00	15.00	13.00	11.00	9.50	9.00	7.00
4-1-3		26.00	21.00	16.00	17.00	13.00	11.00	10.00	9.50	7.00
4-1-4		24.00	23.00	18.00	17.00	14.00	12.00	10.00	9.50	7.00
4-1-5		25.00	21.00	16.00	17.00	13.00	11.00	10.00	9.50	7.00
4-1-6		24.00	20.00	19.00	17.00	15.00	12.00	10.00	9.00	7.00
4-1-7		24.00	21.00	19.00	17.00	15.00	12.00	11.00	9.20	8.00
4-1-8		24.00	20.00	18.00	16.00	15.00	12.00	11.00	8.50	8.00
4-1-9		60.00	20.00	18.00	16.00	14.00	11.00	10.00	9.00	7.70
4-2-0		142.00	24.00	18.00	16.00	14.00	12.00	11.00	9.00	8.00
4-2-1		227.00	22.00	17.00	14.00	12.00	10.00	11.00	9.50	8.00
4-2-2		174.00	27.00	19.00	17.00	15.00	14.00	11.00	9.50	8.00
4-2-3		154.00	26.00	20.00	17.00	15.00	13.00	11.00	9.50	8.80
4-2-4		147.00	23.00	21.00	17.00	14.00	12.00	11.00	10.00	8.40
4-2-5		142.00	24.00	20.00	18.00	14.00	12.00	11.00	9.00	7.40
4-2-6		139.00	25.00	21.00	18.00	14.00	12.00	11.00	9.50	8.00
4-2-7		128.00	24.00	23.00	21.00	15.00	13.00	11.00	9.50	8.00
4-2-8		34.00	23.00	20.00	16.00	13.00	11.00	9.60	9.20	7.00
4-2-9		142.00	123.00	25.00	22.00	17.00	13.00	11.00	10.00	9.00
4-3-0		153.00	111.00	26.00	23.00	18.00	14.00	11.00	9.60	8.00
MEAN		71.40	23.20	20.40	17.50	15.00	13.00	10.70	10.00	8.93

UNITED STATES DEPARTMENT OF INTERIOR  
GEODRICAL SURVEY - WATER RESOURCES DIVISION

DATA SHEET NO. 1  
CLASS C

DATE PRINTED--11/23/62

PLUTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	+10	+20	+30	+50	+70	+80	+90	LIN.
5-01	194.00	118.00	27.00	23.00	18.00	14.00	12.00	9.60	8.80
5-02	232.00	113.00	36.00	27.00	18.00	15.00	12.00	9.60	8.40
5-03	283.00	106.00	58.00	35.00	19.00	14.00	12.00	9.50	7.70
5-04	368.00	126.00	72.00	34.00	19.00	14.00	13.00	9.60	7.70
5-05	388.00	156.00	72.00	57.00	21.00	16.00	14.00	9.00	7.70
5-06	384.00	167.00	72.00	58.00	27.00	17.00	13.00	9.80	7.70
5-07	406.00	151.00	113.00	75.00	30.00	17.00	12.00	9.80	8.40
5-08	466.00	212.00	118.00	81.00	37.00	17.00	13.00	9.80	8.40
5-09	574.00	180.00	112.00	85.00	49.00	22.00	13.00	9.60	8.00
5-10	574.00	154.00	113.00	100.00	54.00	22.00	14.00	9.60	8.00
5-11	423.00	292.00	142.00	116.00	76.00	22.00	15.00	9.40	8.50
5-12	416.00	286.00	222.00	161.00	81.00	24.00	19.00	12.00	9.50
5-13	497.00	311.00	208.00	202.00	131.00	85.00	50.00	21.00	15.00
5-14	433.00	367.00	251.00	212.00	144.00	82.00	33.00	20.00	12.00
5-15	530.00	367.00	251.00	196.00	102.00	35.00	23.00	13.00	9.50
5-16	558.00	275.00	219.00	170.00	128.00	89.00	34.00	21.00	14.00
5-17	999.00	240.00	208.00	202.00	131.00	85.00	50.00	21.00	15.00
47	656.00	308.00	275.00	212.00	144.00	82.00	76.00	38.00	16.00
5-18	647.00	364.00	319.00	232.00	151.00	106.00	85.00	72.00	17.00
5-19	653.00	468.00	324.00	282.00	170.00	118.00	95.00	72.00	17.00
5-20	1140.00	497.00	373.00	281.00	173.00	116.00	106.00	76.00	14.00
5-21	1030.00	545.00	368.00	292.00	192.00	150.00	110.00	101.00	72.00
5-22	630.00	568.00	351.00	306.00	203.00	167.00	148.00	106.00	78.00
5-23	636.00	582.00	480.00	267.00	218.00	167.00	140.00	102.00	94.00
5-24	706.00	554.00	444.00	328.00	215.00	158.00	138.00	100.00	94.00
5-25	706.00	575.00	456.00	328.00	215.00	158.00	138.00	100.00	94.00
5-26	976.00	582.00	509.00	350.00	244.00	185.00	140.00	114.00	96.00
5-27	757.00	574.00	450.00	375.00	307.00	214.00	136.00	124.00	112.00
5-28	1260.00	568.00	450.00	418.00	338.00	216.00	163.00	129.00	117.00
5-29	1010.00	511.00	515.00	458.00	398.00	211.00	190.00	136.00	117.00
5-30	696.00	575.00	541.00	476.00	342.00	254.00	229.00	158.00	120.00
5-31	678.00	575.00	456.00	443.00	355.00	263.00	223.00	193.00	114.00
M	318.00	273.00	252.00	237.00	171.00	136.00	115.00	82.00	78.50

UNIVERSITY OF MICHIGAN SURVEY OF WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE ATTVILLE, MI.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

WAIT	HIGH	.10	.20	.30	.40	.50	.60	.70	.80	.90	LW
b=01	\$98.00	540.00	450.00	403.00	340.00	255.00	198.00	164.00	120.00	120.00	
b=02	659.00	603.00	596.00	423.00	365.00	238.00	187.00	169.00	120.00	120.00	
b=03	1350.00	822.00	570.00	505.00	383.00	296.00	220.00	170.00	114.00	114.00	
b=04	1490.00	844.00	611.00	500.00	408.00	308.00	226.00	161.00	117.00	117.00	
b=05	1150.00	803.00	530.00	468.00	400.00	295.00	256.00	194.00	153.00	153.00	
b=06	746.00	742.00	574.00	479.00	350.00	279.00	215.00	190.00	150.00	150.00	
b=07	853.00	692.00	594.00	463.00	336.00	286.00	232.00	180.00	153.00	153.00	
b=08	872.00	611.00	497.00	443.00	355.00	295.00	224.00	164.00	141.00	141.00	
b=09	672.00	667.00	616.00	468.00	360.00	301.00	216.00	189.00	141.00	141.00	
b=10	749.00	806.00	499.00	468.00	418.00	341.00	310.00	185.00	163.00	163.00	
b=11	626.00	547.00	492.00	457.00	378.00	346.00	302.00	221.00	201.00	201.00	
b=12	730.00	566.00	503.00	455.00	403.00	329.00	295.00	227.00	196.00	196.00	
b=13	1010.00	670.00	592.00	496.00	394.00	314.00	259.00	226.00	170.00	170.00	
b=14	870.00	742.00	540.00	470.00	340.00	271.00	240.00	195.00	170.00	170.00	
b=15	1100.00	667.00	552.00	521.00	397.00	275.00	222.00	190.00	158.00	158.00	
b=16	1120.00	858.00	613.00	527.00	428.00	306.00	227.00	189.00	145.00	145.00	
b=17	1360.00	813.00	710.00	508.00	428.00	279.00	258.00	194.00	138.00	138.00	
b=18	990.00	751.00	632.00	576.00	588.00	259.00	222.00	201.00	132.00	132.00	
b=19	891.00	764.00	579.00	485.00	595.00	296.00	251.00	219.00	173.00	173.00	
b=20	1030.00	693.00	635.00	485.00	378.00	300.00	279.00	226.00	160.00	160.00	
b=21	972.00	662.00	604.00	478.00	375.00	267.00	236.00	227.00	208.00	208.00	
b=22	756.00	714.00	555.00	423.00	355.00	261.00	212.00	199.00	170.00	170.00	
b=23	780.00	521.00	509.00	457.00	326.00	221.00	202.00	176.00	145.00	145.00	
b=24	544.00	502.00	465.00	458.00	373.00	233.00	222.00	204.00	182.00	182.00	
b=25	755.00	548.00	456.00	368.00	332.00	257.00	217.00	195.00	173.00	173.00	
b=26	1300.00	764.00	550.00	408.00	314.00	224.00	204.00	179.00	167.00	167.00	
b=27	737.00	680.00	540.00	469.00	310.00	275.00	220.00	179.00	151.00	151.00	
b=28	603.00	491.00	457.00	410.00	319.00	254.00	222.00	196.00	145.00	145.00	
b=29	527.00	450.00	385.00	355.00	274.00	233.00	222.00	182.00	136.00	136.00	
b=30	614.00	561.00	433.00	345.00	256.00	208.00	190.00	172.00	127.00	127.00	
MEAN	585.00	532.00	475.00	461.00	372.00	337.00	274.00	260.00	249.00	249.00	

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT.

DATE PROCESSED--11/23/62

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LW
7-01	564.00	560.00	468.00	380.00	279.00	202.00	182.00	164.00	109.00
7-02	563.00	497.00	425.00	370.00	275.00	240.00	207.00	142.00	104.00
7-03	487.00	468.00	415.00	375.00	310.00	244.00	229.00	145.00	96.00
7-04	472.00	463.00	423.00	390.00	304.00	233.00	197.00	139.00	94.00
7-05	463.00	443.00	410.00	345.00	272.00	219.00	187.00	145.00	87.00
7-06	443.00	432.00	375.00	350.00	235.00	225.00	192.00	136.00	89.00
7-07	446.00	427.00	403.00	351.00	267.00	203.00	187.00	134.00	87.00
7-08	444.00	423.00	384.00	342.00	240.00	187.00	170.00	139.00	85.00
7-09	446.00	413.00	390.00	335.00	255.00	185.00	161.00	129.00	85.00
7-10	502.00	450.00	397.00	354.00	229.00	180.00	161.00	149.00	81.00
7-11	446.00	408.00	372.00	346.00	222.00	176.00	163.00	145.00	76.00
7-12	408.00	362.00	350.00	296.00	208.00	175.00	154.00	134.00	74.00
7-13	438.00	341.00	310.00	274.00	217.00	179.00	154.00	131.00	70.00
7-14	415.00	342.00	312.00	276.00	205.00	175.00	142.00	131.00	70.00
7-15	408.00	361.00	347.00	307.00	216.00	176.00	161.00	141.00	64.00
7-16	328.00	293.00	263.00	250.00	187.00	163.00	136.00	122.00	63.00
7-17	427.00	269.00	247.00	229.00	176.00	156.00	128.00	117.00	61.00
7-18	318.00	264.00	243.00	212.00	164.00	148.00	122.00	114.00	59.00
7-19	286.00	252.00	236.00	206.00	160.00	145.00	114.00	108.00	59.00
7-20	286.00	244.00	214.00	201.00	158.00	140.00	112.00	104.00	59.00
7-21	244.00	219.00	197.00	193.00	145.00	132.00	104.00	96.00	59.00
7-22	223.00	206.00	197.00	190.00	137.00	128.00	102.00	96.00	57.00
7-23	215.00	203.00	193.00	180.00	131.00	121.00	96.00	94.00	57.00
7-24	206.00	187.00	179.00	173.00	125.00	114.00	98.00	92.00	55.00
7-25	247.00	188.00	176.00	170.00	120.00	106.00	100.00	67.00	55.00
7-26	204.00	180.00	170.00	161.00	112.00	99.00	97.00	85.00	55.00
7-27	185.00	174.00	164.00	153.00	109.00	96.00	95.00	82.00	55.00
7-28	183.00	164.00	155.00	149.00	106.00	94.00	90.00	80.00	54.00
7-29	203.00	151.00	148.00	143.00	101.00	88.00	85.00	76.00	52.00
7-30	203.00	149.00	140.00	135.00	95.00	85.00	83.00	73.00	50.00
7-31	185.00	145.00	138.00	125.00	96.00	83.00	78.00	70.00	49.00
MEAN	316.00	308.00	268.00	250.00	200.00	159.00	144.00	115.00	69.90

UNITED STATES DEPARTMENT OF INTERIOR  
GEODESIC SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00

SWEET GRASS CREEK ABOVE MELVILLE, M.L.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

	DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LOW
1	8-01	201.00	136.00	130.00	122.00	100.00	85.00	76.00	68.00	47.00
1	8-02	174.00	141.00	129.00	118.00	92.00	78.00	74.00	68.00	46.00
1	8-03	177.00	140.00	126.00	114.00	87.00	74.00	72.00	66.00	43.00
1	8-04	197.00	150.00	124.00	109.00	85.00	74.00	71.00	64.00	42.00
1	8-05	256.00	148.00	121.00	108.00	83.00	72.00	68.00	62.00	40.00
1	8-06	214.00	140.00	118.00	101.00	81.00	72.00	70.00	59.00	40.00
1	8-07	185.00	141.00	114.00	101.00	76.00	70.00	68.00	58.00	35.00
1	8-08	171.00	136.00	111.00	96.00	76.00	68.00	65.00	58.00	32.00
1	8-09	158.00	125.00	104.00	96.00	74.00	66.00	63.00	58.00	32.00
1	8-10	150.00	116.00	99.00	92.00	74.00	64.00	61.00	55.00	36.00
1	8-11	166.00	112.00	93.00	89.00	73.00	64.00	59.00	54.00	35.00
1	8-12	185.00	104.00	94.00	85.00	74.00	63.00	63.00	53.00	34.00
1	8-13	152.00	99.00	92.00	81.00	71.00	61.00	60.00	51.00	37.00
1	8-14	144.00	96.00	88.00	81.00	71.00	59.00	55.00	51.00	36.00
1	8-15	138.00	94.00	84.00	76.00	66.00	58.00	54.00	48.00	32.00
1	8-16	131.00	90.00	82.00	76.00	64.00	57.00	57.00	47.00	36.00
1	8-17	126.00	86.00	81.00	73.00	61.00	57.00	54.00	47.00	35.00
50	8-18	124.00	83.00	78.00	70.00	59.00	55.00	55.00	47.00	34.00
50	8-19	121.00	81.00	76.00	68.00	59.00	55.00	54.00	48.00	33.00
50	8-20	124.00	83.00	77.00	72.00	59.00	54.00	52.00	48.00	33.00
1	8-21	146.00	104.00	73.00	69.00	56.00	54.00	50.00	45.00	32.00
1	8-22	173.00	100.00	69.00	67.00	57.00	53.00	50.00	43.00	30.00
1	8-23	184.00	96.00	75.00	65.00	57.00	52.00	47.00	42.00	30.00
1	8-24	226.00	93.00	74.00	64.00	56.00	52.00	47.00	40.00	30.00
1	8-25	179.00	93.00	72.00	63.00	55.00	49.00	48.00	49.00	30.00
1	MEAN	136.00	105.00	94.40	83.30	67.80	60.90	56.30	50.30	34.30

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SWEET GRASS CREEK ABOVE MELVILLE, MT. PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

	DATE	HIGH	+10	+20	+30	+50	+70	+80	+90	LW
	9-01	98.00	73.00	63.00	59.00	50.00	43.00	39.00	37.00	25.00
	9-02	92.00	83.00	65.00	60.00	49.00	44.00	39.00	36.00	25.00
	9-03	94.00	61.00	64.00	55.00	47.00	43.00	39.00	35.00	24.00
	9-04	94.00	76.00	63.00	52.00	45.00	41.00	36.00	35.00	22.00
	9-05	92.00	72.00	60.00	54.00	45.00	42.00	39.00	34.00	23.00
	9-06	87.00	70.00	59.00	50.00	44.00	41.00	39.00	33.00	23.00
	9-07	63.00	68.00	58.00	52.00	44.00	40.00	38.00	33.00	24.00
	9-08	78.00	68.00	58.00	51.00	42.00	39.00	38.00	33.00	24.00
	9-09	74.00	66.00	57.00	50.00	41.00	39.00	37.00	33.00	24.00
	9-10	74.00	64.00	55.00	50.00	41.00	38.00	36.00	32.00	27.00
	9-11	72.00	62.00	55.00	50.00	40.00	37.00	36.00	31.00	26.00
	9-12	76.00	62.00	52.00	51.00	40.00	37.00	35.00	30.00	26.00
	9-13	70.00	60.00	53.00	50.00	40.00	37.00	34.00	33.00	26.00
	9-14	68.00	64.00	55.00	50.00	40.00	36.00	33.00	31.00	25.00
	9-15	198.00	64.00	55.00	49.00	40.00	38.00	35.00	29.00	25.00
	9-16	205.00	60.00	55.00	50.00	38.00	35.00	35.00	28.00	24.00
	9-17	179.00	58.00	54.00	49.00	42.00	36.00	33.00	29.00	24.00
	9-18	161.00	57.00	54.00	47.00	40.00	36.00	33.00	29.00	25.00
	9-19	146.00	59.00	53.00	45.00	39.00	35.00	33.00	29.00	18.00
	9-20	138.00	70.00	52.00	49.00	39.00	35.00	33.00	26.00	24.00
51	9-21	167.00	73.00	52.00	46.00	41.00	35.00	33.00	29.00	24.00
	9-22	149.00	70.00	48.00	45.00	42.00	35.00	32.00	29.00	24.00
	9-23	141.00	90.00	46.00	46.00	36.00	34.00	32.00	29.00	24.00
	9-24	124.00	94.00	49.00	44.00	38.00	34.00	31.00	24.00	24.00
	9-25	118.00	84.00	50.00	44.00	38.00	34.00	30.00	29.00	25.00
	9-26	114.00	86.00	51.00	42.00	37.00	34.00	30.00	28.00	24.00
	9-27	111.00	94.00	51.00	41.00	37.00	34.00	30.00	27.00	24.00
	9-28	106.00	96.00	50.00	43.00	35.00	34.00	31.00	27.00	24.00
	9-29	119.00	101.00	51.00	42.00	35.00	33.00	30.00	27.00	23.00
	9-30	124.00	96.00	52.00	42.00	35.00	33.00	29.00	27.00	23.00
	MEAN	105.00	64.70	53.00	49.30	42.70	37.00	35.40	29.90	27.20

UNIVERSITY STATES OF PARTIALS OF INSTITUTION  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00 SAFETY CRASS CHECK ARIE MELVILLE, W.

DATE PROCESSED--11/23/82

PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	• 10	• 20	• 30	• 40	• 50	• 60	• 70	• 80	• 90	LOW
10-01	164.00	103.00	61.00	43.00	36.00	34.00	32.00	28.00	28.00	23.00	
10-02	145.00	103.00	59.00	46.00	36.00	32.00	31.00	27.00	27.00	22.00	
10-03	140.00	119.00	59.00	44.00	36.00	32.00	30.00	26.00	26.00	21.00	
10-04	153.00	129.00	57.00	43.00	35.00	30.00	29.00	25.00	25.00	21.00	
10-05	142.00	119.00	57.00	49.00	35.00	30.00	29.00	25.00	25.00	21.00	
10-06	138.00	113.00	55.00	47.00	35.00	29.00	28.00	24.00	24.00	21.00	
10-07	138.00	108.00	54.00	46.00	33.00	29.00	28.00	25.00	25.00	20.00	
10-08	132.00	106.00	51.00	46.00	34.00	24.00	28.00	27.00	27.00	20.00	
10-09	126.00	102.00	51.00	43.00	34.00	30.00	28.00	26.00	26.00	20.00	
10-10	125.00	101.00	56.00	44.00	33.00	30.00	28.00	26.00	26.00	20.00	
10-11	121.00	100.00	58.00	44.00	33.00	29.00	28.00	25.00	25.00	20.00	
10-12	112.00	98.00	62.00	46.00	33.00	29.00	28.00	25.00	25.00	20.00	
10-13	105.00	96.00	66.00	44.00	33.00	30.00	27.00	24.00	24.00	20.00	
10-14	101.00	90.00	70.00	46.00	33.00	29.00	26.00	24.00	24.00	20.00	
10-15	97.00	87.00	65.00	47.00	33.00	24.00	27.00	25.00	25.00	20.00	
10-16	94.00	83.00	66.00	47.00	32.00	29.00	26.00	25.00	25.00	20.00	
10-17	92.00	80.00	64.00	45.00	34.00	28.00	26.00	24.00	24.00	20.00	
10-18	88.00	76.00	66.00	45.00	33.00	28.00	26.00	23.00	23.00	20.00	
10-19	82.00	74.00	66.00	45.00	32.00	27.00	27.00	23.00	23.00	20.00	
10-20	81.00	76.00	64.00	46.00	32.00	27.00	27.00	23.00	23.00	20.00	
10-21	79.00	72.00	64.00	50.00	32.00	27.00	26.00	23.00	23.00	20.00	
10-22	77.00	72.00	62.00	52.00	31.00	27.00	25.00	22.00	22.00	20.00	
10-23	77.00	66.00	63.00	52.00	32.00	27.00	24.00	23.00	23.00	20.00	
10-24	75.00	65.00	60.00	50.00	32.00	27.00	26.00	22.00	22.00	20.00	
10-25	75.00	64.00	58.00	52.00	33.00	27.00	25.00	22.00	22.00	19.00	
MEAN	93.20	91.40	58.40	48.70	33.60	28.60	26.70	26.00	26.00	20.40	

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

LITTLE, M.T.

STATION 06/2005/00

**PLUMMING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969  
SWEET GRASS CREEK ABOVE TELVILLE, MI.**

MFAN

UNITED STATES DEPARTMENT OF INTERIOR  
GEOLOGICAL SURVEY - WATER RESOURCES DIVISION

STATION 06/2005/00

SWEET GRASS CREEK ABOVE MELVILLE, MI.

DATE PROCESSED--11/23/82

## PLOTTING POINTS FOR DURATION HYDROGRAPH FOR 29-YEAR PERIOD BETWEEN WATER YEARS 1941 AND 1969

DATE	HIGH	.10	.20	.30	.50	.70	.80	.90	LW
12-01	34.00	35.00	26.00	27.00	22.00	17.00	16.00	15.00	9.50
12-02	39.00	35.00	28.00	27.00	21.00	17.00	15.00	13.00	9.50
12-03	46.00	33.00	28.00	26.00	21.00	16.00	15.00	12.00	10.00
12-04	41.00	33.00	27.00	26.00	21.00	17.00	14.00	10.00	8.00
12-05	34.00	32.00	26.00	25.00	20.00	17.00	13.00	10.00	3.20
12-06	36.00	33.00	28.00	25.00	20.00	16.00	13.00	10.00	3.00
12-07	36.00	33.00	26.00	24.00	19.00	14.00	13.00	12.00	8.00
12-08	37.00	33.00	28.00	24.00	18.00	14.00	13.00	12.00	8.00
12-09	36.00	34.00	27.00	23.00	18.00	14.00	12.00	10.00	6.00
12-10	35.00	32.00	27.00	22.00	16.00	13.00	12.00	11.00	8.00
12-11	34.00	33.00	28.00	22.00	18.00	12.00	11.00	9.00	8.00
12-12	34.00	29.00	28.00	21.00	18.00	13.00	11.00	10.00	4.00
12-13	34.00	27.00	23.00	21.00	17.00	11.00	11.00	8.00	8.00
12-14	32.00	29.00	21.00	20.00	17.00	13.00	11.00	10.00	7.00
12-15	32.00	24.00	23.00	20.00	18.00	12.00	12.00	7.00	5.00
12-16	32.00	26.00	23.00	22.00	18.00	12.00	11.00	7.00	7.00
12-17	32.00	25.00	24.00	22.00	17.00	12.00	11.00	9.00	7.00
12-18	31.00	26.00	23.00	20.00	17.00	13.00	12.00	9.00	7.00
12-19	31.00	26.00	22.00	20.00	18.00	13.00	12.00	9.00	7.00
12-20	31.00	28.00	23.00	21.00	18.00	12.00	11.00	9.00	7.00
12-21	40.00	26.00	25.00	20.00	16.00	12.00	11.00	9.00	6.00
12-22	50.00	30.00	24.00	21.00	18.00	12.00	9.00	8.00	5.00
12-23	51.00	30.00	25.00	20.00	16.00	12.00	9.00	8.00	6.00
12-24	47.00	30.00	23.00	14.00	16.00	12.00	9.00	7.00	6.00
12-25	40.00	29.00	24.00	20.00	16.00	13.00	9.00	7.00	7.00
12-26	32.00	26.00	21.00	14.00	17.00	11.00	9.00	8.00	7.00
12-27	29.00	26.00	21.00	19.00	17.00	10.00	9.00	7.50	6.50
12-28	28.00	24.00	22.00	20.00	15.00	11.00	9.20	7.00	6.00
12-29	27.00	24.00	21.00	18.00	15.00	12.00	11.00	9.00	6.50
12-30	26.00	21.00	20.00	19.00	15.00	13.00	12.00	9.00	6.00
12-31	25.00	22.00	20.00	18.00	16.00	13.00	12.00	9.00	6.00
MEAN	33.10	27.60	23.10	20.40	18.10	14.00	11.40	10.70	7.23

Appendix B

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
West Fork Stillwater	MDFWP	Approx. 3 miles upstream from Castle Creek	12- 4-74 8- 6-75 8-21-75 9- 8-75 9-29-75 10-20-75 12- 1-75 12- 9-75 1-12-76 2-19-76 3-16-76 4- 8-76 4-23-76 5- 5-76	25.2 159.9 102.8 63.1 45.0 43.7 36.2 29.7 23.0 20.4 16.3 23.4 24.8 54.0
West Fork Stillwater	MDFWP	Approx. 1-2 miles upstream from Initial Creek	8- 4-75 8-21-75 8-29-75 9-30-75 10-29-75 11-14-75 12- 9-75 1-14-76 2-19-76 3-16-76 4- 8-76 4-20-76 5- 4-76 5-20-76	132.6 77.8 51.8 25.2 21.3 16.6 13.1 11.8 7.7 7.3 11.0 12.5 27.5 249.0
Picket Pin Creek	MDFWP	At Forest Service boundary approx. 200 feet above mouth	7-17-75 7-31-75 8-20-75 8-28-75 9-29-75 10-20-75 11-25-75 12- 8-75 1-16-76 2-18-76 3-10-76 4- 7-76 4-23-76 5- 6-76 5-21-76 6- 5-76 6-21-76 7- 5-76	47.3 20.9 13.1 8.1 6.7 6.3 6.7 6.6 5.3 4.5 4.3 4.1 5.0 11.1 45.8 54.8 45.5 31.4

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
Butcher Creek	USGS	NE $\frac{1}{4}$ SW $\frac{1}{4}$ S23, T6S, R18E, at bridge on county road just below confluence of E and W Forks of Butcher Creek, 2 $\frac{1}{2}$ miles W of Luther	10- 4-60 10-18-60 11-15-60 1-31-61 4- 3-61 4-17-61 6- 5-61	1.0 2.4 .9 .5 .8 .7 1.2
Butcher Creek		NW $\frac{1}{4}$ NW $\frac{1}{4}$ S25, T5S, R18E, at Peterson Place, 2 $\frac{1}{2}$ miles NE of Roscoe	10- 4-60 10-18-60 11- 1-60 1- 3-61 2-16-61 3-20-61 5- 2-61 7- 5-61 7-31-61 9- 4-61	10.2 8.1 5.6 1.3 1.8 1.6 4.2 22.6 19.6 26.7
Butcher Creek		SW $\frac{1}{4}$ NE $\frac{1}{4}$ S36, T4S, R18E, 0.1 mile E of road junction, 3 miles E of Fishtail	10- 4-60 11- 1-60 11-15-60 12-19-60 1-17-61 3- 2-61 5- 2-61 5-18-61 6- 5-61 6-19-61 7-17-61 8-17-61 9- 4-61 9-18-61	15.8 9.1 7.2 4.3 3.6 2.7 5.5 11.1 6.5 17.1 27.7 42.2 40.6 27.7
Castle Creek	USGS	NW $\frac{1}{4}$ SW $\frac{1}{4}$ S26, T4S, R15E, Stillwater County, at county bridge just upstream from mouth, 2.7 miles (4.3 km) NW of Nye	10-18-72 11-10-72 12-11-72 1-10-73 2- 9-73 3-13-73 4- 9-73 5-11-73 6-13-73 7-19-73 8-21-73 9-18-73	28.0 22.3 21.8 18.1 18.0 13.9 18.4 45.9 123.0 42.8 27.9 29.7

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
West Fork Stillwater	USGS	NE $\frac{1}{4}$ SW $\frac{1}{4}$ S31, T4S, R16E Stillwater County, 300 ft. downstream from county bridge, 0.5 mile N of Nye, 0.7 mile upstream from mouth	10- 5-70	56.8
West Fork Stillwater 06202598	USGS	W $\frac{1}{2}$ S26, T4S, R15E, Stillwater County, at bridge 300 ft. downstream from Castle Creek, 2.7 miles NW of Nye, and 3 miles upstream from mouth	11-12-70 12-10-70 1-12-71 2-10-71 3-10-71 4-12-71 5-11-71 6-10-71 7- 8-71 8-16-71 9- 8-71 10- 7-71 11-18-71 12-15-71 1-20-72 2-18-72 3-23-72 4-19-72 5-23-72 6- 5-72 8-10-72 9-11-72 10-18-72 11-10-72 12-11-72 1-10-73 2- 9-73 3-13-73 4- 9-73 5-11-73 6-13-73 7-19-73 8-21-73 9-18-73 8-27-81 10-22-81 12- 2-81 1-13-82 3- 9-82 5- 3-82 7- 1-82 9- 8-82	62.0 46.1 32.8 35.8 30.6 31.7 130.0 899.0 448.0 143.0 128.0 108.0 57.1 52.0 41.8 41.4 47.1 46.4 259.0 683.0 139.0 125.0 92.4 60.3 55.8 39.1 45.5 33.0 40.0 90.9 599.0 179.0 101.0 88.9 59.6 42.9 35.3 30.3 25.5 60.7 822.0 81.1

<u>Stream</u>	<u>Source of Data</u>	<u>Location</u>	<u>Date</u>	<u>Flow (cfs)</u>
Fishtail Creek 06204150	USGS	Near Dean	8-28-81 10-23-81 12- 3-81 1-14-82 3- 9-82 5- 4-82 6-30-82 9- 9-82	13.1 9.3 6.7 4.6 4.3 20.0 134.0 12.8
West Fork Stillwater 06202590	USGS	Above Cathedral Creek near Nye	8-27-81 10-22-81 12- 3-81 1-14-82 3-10-82 7- 1-82 9- 8-82	29.1 10.8 9.9 9.9 7.0 est. 617.0 43.4



